APPENDIX F: Base Year & Future Employment Methodology

BASE YEAR EMPLOYMENT
FOR SKAGIT REGIONAL TRAFFIC MODEL

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A. INTRODUCTION

Skagit County, Burlington, and Mount Vernon each, around the same time, began to consider building a traffic model to support the transportation element work for their local comprehensive plan. (Anacortes was already in the middle of such a project and Sedro-Woolley decided to pursue a traffic model sometime later.) At the time it was suggested that some coordination among the models would be beneficial. The coordination that was pursued focused on a coordinated effort to acquire employment data. Other coordination took place on the establishment of traffic analysis zone boundaries and on the definition of SIC groupings. County staff pushed hard on this coordination because it would have been extremely difficult to do a County-wide model without some degree of coordination on these three topics.

B. PROCESS FOR ACQUIRING EMPLOYMENT DATA

It was agreed that the best available source for employment data was the State Employment Security Department (E.S.). Since it is common for local jurisdictions to request employment data for traffic modeling purposes, E.S. staff had already developed a process to accommodate such requests. The general process is as follows:

1. Request a listing of the address of all the employers in the County sorted by City (zip code), by street, and by address.

2. Have local staff code each address by traffic analysis zone (and possibly Block Group and/or BNA).

3. Return the address list coded by traffic analysis zone to Employment Security for processing.

4. Submit to Employment Security the employment breakdown (SIC groupings) requested.

5. Employment Security then produces employment totals by traffic analysis zones, broken down by the SIC groupings.

6. Employment Security sends the traffic analysis zone employment totals to the local agency.

In Skagit County, this process was handled through Skagit County Public Works

Department. The digital file with the addresses was sent to Public Works which divided it into five sub-files, one for the zip code area of each of the four city models, and the remainder of the County. Printouts of the files for Burlington, Mount Vernon, and Anacortes were sent to local staff for address coding to TAZ. The hand coded printouts were returned to Public works, which did quality control checks and then transferred the data back into a digital form. Digital information was then sent to Employment Security. Not all of this data processing took place at the same time. (The data for Sedro-Woolley was sent to their staff in digital form, and they worked directly with Employment Security.)

The reason for this cumbersome coding process is to ensure the confidentiality of the data. In managing the confidentiality, data suppression rules come into play. Because of the potential loss of data through suppression, it is critical in step 4. to properly sequence data totals that are to be produced. This was one reason that the County and most cities defined TAZs to be subdivisions of BNAs. This allowed a hierarchy of data to be requested.

C. REGIONAL MODEL EMPLOYMENT

In order to produce the base year employment data for the Skagit Regional Traffic Model, we originally assumed that we would be able to take the base year data from each of the four city traffic models (Anacortes, Burlington, Mount Vernon, and Sedro-Woolley) and add it to the employment data for the rural County to have regional base year figures. This assumption was based on two facts: 1) that, with the exception of Anacortes, all the models started with the same first quarter 1992 employment data from Employment Security Department; and 2) that we defined our regional traffic analysis zones (TAZs) to be combinations of local TAZs. After aggregating all the base year employment data into the regional TAZ format, we did our first few calibration runs. Problems with calibration led us to look closely at the employment data that we were using. Some problems with the data became apparent.

We were aware of certain inconsistencies in the data bases from the start. For instance, for the Regional Model, we used agricultural acreage rather than agricultural employment to project agricultural trips. All the city models included agricultural employment. Also, one of the city models used hotel/motel rooms instead of hotel/motel employment to project those trips. Both the use of agricultural land, and the use of hotel/motel rooms added accuracy to these individual models. But it also created an inconsistency in the Regional Model's base year data. These discrepancies were taken into consideration in the first calibration runs.

D. PROBLEMS

When we began to inspect the data much closer after the first calibration run, various

data problems surfaced. Most of these problems were created because of the data "suppression" in the information received from the Employment Security Department.

Employment Security works under data suppression rules that prohibit them to give out data totals which would allow data users to figure out employment totals for individual employers. Thus, data is suppressed (no data is given) when the number of employers in a geographic area or SIC group is small. A general rule is that as the number of SIC categories increases and as the size of the geographic areas decrease, the amount of suppression increases substantially.

The problem that arose with Burlington, Mount Vernon and Sedro-Woolley was that most of the TAZ level data received from E.S. was suppressed. Sedro-Woolley and Burlington ran into another problem. They did not ask for grand totals by SIC group to be calculated first. Grand totals were calculated after suppression, leaving a large "hidden" portion of the grand total which was not broken down by SIC group. Thus, control totals were not available for SIC groups. A final problem associated with the Mount Vernon and Sedro-Woolley employment work was that they did not appear to use the all the available E.S. data (particularly control totals for SIC groups). In the case of Sedro-Woolley, it appeared that little, if any, of the E.S. data was used.

E. CONTROL TOTALS

It was important for the regional work to have control totals broken down by SIC groupings. Because of the "hidden" data caused by suppression, we could not get accurate control totals from the employment security data that came from the address matching work. However, that same data (March of 1992) was available through an E.S. publication. This would have been the logical one to use.

Concurrent to the work on the Regional Model, an employment forecasting effort was taking place by E.D. Hovey, a consultant for SCOG working on the Overall Economic Development plan (OEDP) and the Economic Development Element of the County's Comprehensive Plan. That work used a 1992 annual average as the base data. Because the Hovey forecasts were to be used as the basis for future year control totals for our employment forecasts, it made sense to consider this base year information as a possible control total. The Hovee data and the E.S. data were used as control totals in this work.

F. INDIVIDUAL JURISDICTIONS' EMPLOYMENT

1. Anacortes

The Anacortes area was a particular problem because the Anacortes Traffic study began over a year prior to the other traffic studies. Employment Security data was not used for the base year employment data in the study.

Also, Anacortes used different employment categories than the other jurisdictions. Thus, the Anacortes employment data was inconsistent with all the other data used from the start.

Fortunately, in conjunction with the rural address coding, Anacortes staff did the address coding for the Employer addresses within the Anacortes zip code area to see what the results might be. The 1992 employment figures that came back from Employment Security totaled 4195 compared to the 1990 base year employment total od 3116 used in the Anacortes study. This was a major discrepancy since only a small portion of this 1,000+ difference could be explained by the temporal difference.

Generally, the employment data that Employment Security provided for Anacortes had SIC grouping breakdowns only for the city total. At the TAZ level, only employment totals were available without suppression. Thus totals for TAZ's needed to be desegregated to SIC groupings. Ian Munce, City of Anacortes staff, helped do this disaggregation. The results of the work with Ian were adjusted twice more; first to adjust government and health service to reflect that all the employment at the local hospital appeared under government in the Employment Security data; and second to make additional adjustments to ensure that both sub-totals for the TAZ's and totals for the SIC groupings added to the study area control totals.

A final adjustment was made to the data for March's Point. Originally, we knew that the figures coming from E.S. were way low because we had independent sources for employment at the refineries. Initially, we had added (fudged) 737 employment to the two TAZs for that area to better represent what we knew was out there. Later we found that there were in 9 firms representing 772 employment in the Anacortes zip code area that were "uncoded". We figured that most of these 772 were the missing refinery employment, and thus assigned all of this employment to the two March's Point TAZs. This eliminated our need to "fudge", and it enabled us to reasonably allocate the "uncoded". (If we had assumed that this "Uncoded" was actually in Anacortes, the employment discrepancy between E.S. and the Anacortes Model would have been closer to 1,800.

2. Burlington Employment Discussion - Base Year 1992

There was a large discrepancy between the data that came from the Employment Security by TAZ and the data that was used in the Burlington Transportation Study. E.S. data shows employment for Burlington in 1992 as 3,993 coded, 405 "hidden", and 1,069 "uncoded". Again, the "hidden" represents employment in the Burlington Modeling area which is not allocated to any SIC categories or to any geographic areas because of suppression, and the "uncoded" represents addresses inside the Burlington zip code area, but

outside the Burlington Modeling area. Thus, the E.S. base year employment total for Burlington's Modeling Area is 3,993 + 405, or 4,398. The base year employment is shown in the Burlington Transportation Element as 6,287. This is a discrepancy of 1,889.

Part of this discrepancy was simply an error on the part Bill Popp & Associates. They assumed that the 1,069 "uncoded" employment were located inside the Modeling Area. Thus, they allocated the "uncoded" along with the "hidden" to TAZ's, giving an interim total of 5,467. (Only the "hidden" should have been allocated.) Then they added School employment of 172 that, they felt, were not included in the E.S. data, increasing the total to 5,639. (Typically school employment is included in government in E.S. data.)

The above explains 1,241 (1,069 + 172) of the discrepancy. The remainder of this discrepancy can be explained by an additional adjustment made to supplement the E.S. data. It is generally known that E.S. data does not cover all workers. A sub-consultant on the project, Tim Waterson, used adjustment factors he got from Scott Bailey of Employment Security to inflate the Wage and Salary Employment data from Employment Security. Two Factors were used: one to get those Wage & Salary employment not covered, and the other to get non-wage and salary employment (self employed, etc.). Tim Waterson's final adjustment put the final base year employment total for the Burlington Modeling area at 6,287.

In order to sort all this out, we discussed it in detail with Bill Popp Jr. Fortunately he had the employment totals for Burlington by TAZ prior to adding a distribution of the "uncoded". (Apparently, the "hidden" were allocated prior to the "uncoded".) His sending this data to us allowed us to make adjustments discussed below. It should be noted that later, when the County did its own address coding, it was found that 385 of the 1,069 Burlington "uncoded" actually was located inside the Burlington Modeling area. An appropriate final adjustment was made as shown below.

To adjust backwards we did the following:

a. We created two matrices, one with the final Burlington employment data and one with the data from Bill Popp Jr. prior to the allocation of "uncoded". The difference (our adjustment) was 1,043. (The actual "uncoded" from E.S printouts was 1,069, so we were off by 23.)

b. Next we created tables with the Waterson adjustment factors.

c. We then created a third matrix that was a linear combination of the first two and the adjustment factors. This made an additional adjustment of 631. (The actual should have been 648, so we were off

17.)

d. Finally, 385 of the "uncoded" which was found to actually be in the Burlington model area was added to the appropriate TAZs. Of this 385, 257 was allocated to Trade, 50 to Industrial, and 78 to service.

A remaining concern is the 172 school employment that Burlington added for school employment. This is included in the E.S. government category. However, all government employment was completely suppressed in the Burlington run. Thus government was a part of the "hidden" category. An initial adjustment probably should have been made to reduce the Burlington employment total by 172. However, it was not made for the Regional Model. (Possibly, we felt that we had already reduced the Burlington numbers enough.)

3. Mount Vernon

Much of the work that went into the Mount Vernon employment was good. The SIC grouping totals for the entire study area, after the considering the adjustment to the data that Mount Vernon made, were exactly the same as the Employment Security data totals. However, from the E.S. data there were control totals by BNA for the SIC groupings, and total employment totals control totals by TAZ. The latter were not used since the TAZ employment totals from the Mount Vernon study turned out different that those from Employment Security. We feel that this was a slip up by the city's consultant, not using the available TAZ totals as control totals. Since the discrepancies balance across the Mount Vernon study area and the final TAZ totals were estimated based on local knowledge and land use surveys, we did not consider this a problem for the regional model.

The base year employment data analysis work by Mount Vernon made one major adjustment. This was to reduce one TAZ by 700 because it was found that the actual work location of these employees was outside of the Mount Vernon area. (E.S. allocated them to Mount Vernon because of the location of the administrative office.) The analysis needed to determine the distribution of this employment of 700 was never done, and the 700 was never allocated.

Mount Vernon's analysis did pick up the fact that the Hospital employees showed up under government, and the appropriate adjustment was made. What it did not pick up was the fact that all of the hospital employment from the hospital in Sedro-Woolley showed up at the hospital in Mount Vernon. Thus we moved 300 from medical services from Mount Vernon to Sedro-Woolley.

In BNA 9522, there were 437 employment from the County (rural) listings that were actually in the Mount Vernon study area. These were added along with 94 in BNA 9526. Total adjustments here by SIC grouping was; 379 Trade, 6 Industrial, 52 T.C.U., and 94 Service.

Final adjustments were made for school employment. Generally, if the specific TAZ had government employment in it, the added school employment was subtracted from government. If not, then the school employment was simply added. Of the 916 school employment added, 630 was subtracted from Government, giving a net increase in total employment of 286.

4. Sedro Woolley

There were major discrepancies in Sedro-Woolley between the Employment security employment figures and the ones that were used in the Sedro-Woolley model. These discrepancies were in both the total employment and in the distribution among the SIC groupings. Because there was such a large discrepancy in trade and industrial/manufacturing, a negative adjustment was made. Also, the S-W model did not include any of the 393 school employment, nor did it adjust for 300 hospital employment that showed up in Mount Vernon. Positive adjustments were made for both. Essentially, it appears that the Sedro-Woolley model did not use the employment information that came from the Employment Security Department.

The following adjustments were made:

a. Add 393 for school employment.

b. Reduce both Trade and Industrial by 14% across the board, reducing the total by 227.

c. Add 300 health employment to medical services.

d. Total: Net increase of 466 (from 2980 to 3446).

2014 EMPLOYMENT FORECASTS
FOR SKAGIT COUNTY REGIONAL TRAFFIC MODEL
8-23-94

A. INTRODUCTION

Employment forecasts are important in the development of the County's Comprehensive Plan for several reasons. With respect to the County's transportation element, the forecasting of future travel for the transportation element requires future forecasts of employment be made for small geographic areas called Traffic Analysis Zones (TAZs). These forecasts along with other information are used in the traffic modeling process. The employment forecasts discussed here have been developed specifically for the needs of the traffic model forecasts.

In base year employment data used in calibrating the traffic model (see separate discussion) every effort was made to use the employment data that was used by the four largest cities in the County that did their own GMA traffic studies. (A number of adjustments needed to be made in order to produce one consistent employment database.) The city traffic studies also produced employment forecasts. It was hoped that the work done by the cities could be adjusted and incorporated into the county-wide employment growth forecasts.

Concurrent with the work on the County's transportation element has been a consultant effort to produce an Overall Economic Development Plan (OEDP) for SCOG which will be the basis for the County's Economic Development Element for the Comprehensive Plan. A part of this effort has been the development of County-wide Employment forecasts by SIC groupings. With minor adjustments, the Hovee forecasts were used as County-wide control totals for the Skagit Regional Traffic Model.

B. ORIGINAL APPROACH

The general approach we were originally hoping to used was quite simple (and naive). It was the following:

1. Use the city forecasts for the TAZs in the urban growth areas of the four large cities.

2. Use the OEDP employment forecasts as control totals for the entire County.

3. Take the difference between the totals for the cities' forecasts and the OEDP forecasts as the forecast total for the rural area and the small cities and towns.

4. Subtract the base year totals for the rural area and the small cities and towns

from 3 above to give the future employment growth.

5. Work with the Planning Department to allocate the totals in 4 above down to the TAZ level.

There are a number of problems with this approach. First, there were a number of adjustments to the base year employment estimated for all the cities. Somehow we need to adjust the future year forecasts to take into account these adjustments. Second, the future year for the County-wide traffic model is 2004. The future year for the city employment forecasts is 2012 for two of the cities and 2010 for two others. Some temporal adjustments are needed. Finally, we were extremely optimistic to assume that the difference between the city totals and the County-wide total from the OEDP will give a reasonable figure for the rural and small town forecast.
With the above problems in mind, we developed a methodology that is shown in the next section.

C. ACTUAL PROCESS

1. Process Needs

To summarize, the actual process had to deal with:

a. Base year adjustments.

b. Temporal differences in forecast year.

c. Possible problems with the rural residual.

To do this, a number of calculation steps were required prior to the employment forecasts being finalized. The discussion below focuses on the steps to get to city area control totals. Some discussion is also made on how the adjustments were applied down to the TAZ level.

2. SIC Group Totals by City Area

Most of the analysis which produced the 2014 employment forecasts took place through the adjustment of city area or model area forecasts done for the city traffic models. The primary adjustments are shown in Figure A. We will go through the Sedro-Woolley adjustments as an example. The following steps were uses to produce the 2014 forecasts:

a. List the original employment figures (from the city traffic model) broken down by SIC grouping for the 1992 base year and for the city future year (2010 in this case). Determine the growth percentage (% growth) projected for each SIC grouping. Then list the adjusted 1992

base year employment figures (those used in the Regional Model) by SIC groupings. (See separate write-up on Base Year Employment.)

b. Multiply the adjusted 1992 figures by the % growth. This gives an adjusted forecast for a city future year (2010 in this case).

c. Determine a temporal adjustment (adjusting for the difference between 2010 and 2014) by figuring the yearly adjusted growth, and multiplying that by the number of years (here it is 4).

d. The final 2014 adjusted forecast (by SIC group) is the addition of the adjusted forecast (for 2010) and adding the temporal adjustment.

This process was straight-forward for Sedro-Woolley and for Burlington. However, slight adjustments of this process were needed in Mount Vernon and Anacortes.

In Mount Vernon, no schools showed up in the original figures. (They were theoretically included in with government.) As such, we applied the % growth for government to the adjusted 1992 schools to produce the adjusted 2012 forecast for schools.

In Anacortes the original forecasts had only two SIC groupings rather than the seven in the regional model. These two categories were "retail" and "non-retail" employment. The retail "% growth" was used to produce the adjusted 2010 forecast for wholesale/retail only. The "non-retail" "% growth" was used for all other SIC groupings. Again, all this is summarized in Figure A.

Figure B is simply a restructured summary of data from Figure A. The important collum is the "sum total" for 2014 which will be used in calculations below.

3. Base Year Control Totals

Figure C is an analysis of the consistency among the Regional Model base year data, the Employment Security March 1992 data, and the 1992 Hovee data (yearly average for 1992 from Employment Security). All three have the same data source, Employment Security. In theory, the Regional Model data and the March 1992 data should be the same or very similar since they had the same date, March, 1992. There are some differences in the SIC totals, but the total difference is only 321 (about 1%).

You may notice that, for every SIC grouping except government/schools, the Regional Model data fell between the totals for two other two. This is good, since it shows that, after all the adjustments of the base year data from the cities, the totals are in the right range. (It was lower than both on

government/school.) Overall, the Regional Model data had 1,346 less employment (4.05% less) than the Hovee OEDP base year data.

4. Determining Rural Employment Forecast

Figure D is a summary of the E.D. Hovee forecasts developed for SCOG's Overall Economic Development Plan (OEDP) and for the County's Economic Development Element of the Comprehensive Plan. The "Trend Forward" rather than the "Population Based" are the forecast used in this analysis. (Both are very similar.)

The Skagit Regional Traffic Model is based on, among other things, March 1992 employment figures. The Hovee forecasts are based on a 1992 yearly average for employment. In order to have one consistent set of employment figures for the model forecasts, we decided to adjust the Hovee forecasts. Adjusting in the other direction (adjusting the base year employment to match the Hovee figures) would have been an enormous amount of work.

Figure E starts with the Hovee projected growth from 1992-2014 (from Figure D), and adjusts it down by 4.05 % in order for it to be consistent with the Regional Model base year data. The logic here is that if the base year employment for the model is 4% lower than that used by Hovee, then the projected growth should be adjusted by the same amount. Adding this adjusted growth to the adjusted base year totals for the Regional Model produce the interim forecasts. The "Missing & Adjusted" collum takes into account such things as the portion of the County outside of the modeling area, the rural agricultural employment not used in the Regional Model, and the hotel/motel discrepancy. These were put back in to give numbers comparable with the Hovee numbers. The "Adjusted Forecast" is the actual model forecast, after taking back out the "Missing & Adjusted". Subtracting the City forecast totals gives the rural residual labeled "Remainder Rural". These are the figures we hoped would be reasonable. Subtracting the 1992 rural totals gives the "Rural 1992-2014" growth.

This rural residual approach did not turn out too bad. The total growth, 6690, represents about 25% of the forecast employment growth for the County as a whole. Compared to the 91% county-wide employment growth forecast, this 6,690 represents a 156% growth in the rural areas and small towns. This methodology produced figures that were somewhat higher than would have been optimal.

FIGURE A

SKAGIT COUNTY EMPLOYMENT - 5/16/94

	Original Sedro-Woolley 1992	2010	% Growth	Adjusted 1992	2010	Final Adjusted 2010-14	2014
Wholesale/Retail	638	965	51.25	549	830	63	893
Man/Ind/Const	988	1270	28.54	850	1093	54	1147
Tran/Com/Util	35	43	22.86	35	43	2	45
Office/Service	764	1025	34.16	764	1025	58	1083
Government	280	378	35.00	280	378	22	400
Schools	0	0	.00	393	531	29	560
Health Services	275	299	8.73	575	625	11	636
TOTALS	2980	3980	33.56	3446	4525	238	4763

	Mount Vernon 1992	2012	% Growth	Adjusted 1992	2012	Final Adjusted 2012-14	2014
Wholesale/Retail	3289	6025	83.19	3668	6719	339	7058
Man/Ind/Const	2108	3862	83.21	2114	3873	195	4068
Tran/Com/Util	657	1204	83.26	709	1299	66	1365
Office/Service	1889	3460	83.17	1983	3632	183	3815
Government	2395	3641	52.03	1765	2683	102	2785
Schools	0	0	.00	916	1393	85	1477
Health Services	2054	3763	83.20	1754	3213	162	3376
TOTALS	12392	21955	77.17	12909	22813	1132	23945

	Burlington 1992	2012	% Growth	Adjusted 1992	2012	Final Adjusted 2012-14	2014
Wholesale/Retail	2339	4936	111.03	2253	4755	278	5032
Man/Ind/Const	1826	3375	84.83	1340	2477	126	2603
Tran/Com/Util	268	646	141.04	131	316	21	336
Office/Service	1395	2320	66.31	843	1402	62	1464
Government	146	378	158.90	131	339	23	362
Schools	172	261	51.74	172	261	10	271
Health Services	141	270	91.49	128	245	13	258
TOTALS	6287	12186	93.83	4998	9794	533	10327

	Anacortes 1992	2010	% Growth	1992	2010	Final Adjusted 2010-14	2014
Wholesale/Retail	1283	1836	43.10	1009	1444	97	1541
Man/Ind/Const	1833	2907	58.59	1303	2066	170	2236
Tran/Com/Util				141	224	18	242
Office/Service				546	866	71	937
Government				360	571	47	618
Schools				267	423	35	458
Health Services				569	902	74	976
TOTALS	3116	4743	52.21	4195	6497	511	7008

Skagit County Employment Forecasts By Scenario

Industry	Actual		Trend Forward		Population Based	
	1980	1992	2014	1992-2014	2014	1992-2014
Agriculture/Mining	2,149	3,089	3,151	62	3,117	28
Construction	1,373	2,411	5,979	3,568	5,914	3,503
Manufacturing	3,777	4,283	7,177	2,894	7,099	2,816
T.C.P.U.	1,044	1,379	1,929	550	1,908	529
Wholesale Trade	748	1,151	1,782	631	1,763	612
Retail Trade	4,423	7,665	15,085	7,420	14,921	7,256
F.I.R.E.	659	938	1,447	509	1,432	494
Services	3,218	5,777	14,170	8,393	14,016	8,239
Government	4,536	6,557	10,861	4,304	10,743	4,186
Heavy Industry	4,641	5,396	9,943	4,547	9,834	4,438
Light Industry	2,015	3,685	7,372	3,687	7,292	3,607
Commercial	6,869	11,019	21,234	10,215	21,003	9,984
Institutional (Public)	6,253	10,061	19,882	9,821	19,665	9,604
Other	2,149	3,089	3,151	62	3,117	28
Total	21,927	33,250	61,582	28,332	60,911	27,661

Source: U.S. Census Bureau, Employment Security, Office of Financial Management, and E.D. Hovee & Company

FIGURE D

FIGURE E

ADJUSTMENTS OF HOVEY FORECASTS - 5/18/94

	1992-2014	.96% Adj	Skagit Model	Missing & Adjusted	Skagit & M & A	Interim Forecast	Adjusted Forecast	City Totals	Remainder Rural	1992 Rural R Totals 199
Wholesale/Retail	8051	7725	8550	103	8653	16378	16275	14524	1751	1037 1071
Wholesale	631	605								
Retail	7420	7119								
Man/Ind/Const	6524	6260	7651	1580	9231	15491	13911	10054	3857	2092 2044
Manufacturing	2894	2777		171						
Construction	3568	3423								
Agriculture	62	59		1409						
Mining										
Tran/Com/Util	550	528	1220	68	1288	1816	1748	1988	-240	2042 204
Office/Service	8982	8541	7747	-950	6797	15338	16288	12545	3743	
Services	8393	8053	4700	51				7299		~~60~~ 585
F.I.R.E.	509	488								60, 564
Health Serv.			3047	-1201				5246		
Hotel/Motel				200						13 21
Government	4304	4130	4621	1314	5935	10065	8751	6931	1820	337
Government			2656	1211				4165		120 120
Schools			1965	103				2766		150 217
TOTALS	28331	27184	29789	2115	31904	59088	56973	46042	10931	4167 4241

FIGURE F

ADJUSTMENTS TO CITY & R.S. BASE YEAR EMPLOYMENT - 5/13/94

AREA	EMPLOYMENT OLD	EMPLOYMENT ADJUST	CHANGE	PURPOSE OF ADJUSTMENT
OUNTY				
March Point				
E.S. Pudged	868	903	35	Original adjustment was 737 based on EDASC data.
E.S. Totals	131	903	772	Allocation of 772 'uncoded" in Anacortes area.
Other			120	School data adjustment: +85 Schools +35 Government
NET			892	
NACORTES				
Model Data	3116	4195	1079	Adjust to Employment Security Totals.
EDRO-WOOLLEY				
1st Adjustmt			393	Adding Schools.
2nd Adjustmt			-227	Factoring down Trade and Industrial.
3rd Adjustmt			300	Including 300 Hospital Employment showing up in M.
NET			466	
OUNT VERNON				
1st Adjustmt	13092	12392	-700	M.V. removed 700 because workers are outside UGA.
2nd Adjustmt	12393	12093	-300	Remove 300 Hospital Employment belonging to S-W.
3rd Adjustmt	12093	12624	531	County employment located in M.V. UGA.
4th Adjustmt	12624	12910	286	School data adjustment: +916 Schools -630 Governm
NET			-183	
URLINGTON				
1st Adjustmt	6237	5203	-1034	Adjustment from Bill Popp Jr. to back out 'uncode
2nd Adjustmt	5203	4624	-579	Adjustment from Waterson to back out factors.
3rd Adjustmt	4624	5009	385	County employment located in Bur. UGA (9518).
NET			-1228	
T ADJUSTMENT - E.S.			1026	
T ADJUSTMENT - First Run			289	