METHODOLOGY

1 - SOURCES OF DATA

A - Geographic Map Data

Five geographic data layers were updated for use in the ten-year student population projections:

- 1. Street Centerline Database
- 2. Study Areas
- 3. Schools
- 4. Students Historical and Current
- 5. Future Residential Development

1) Street Centerline Data

DDP has licensed a digital street centerline map of the School District from SANGIS. The street database has associated attributes that contain, but are not limited to, the following fields: full street name, address range and street classification

The main function of the streets is in the geo-coding process of the student data. Each student is address matched to the streets by their given address. The geo-coding process places a point on the map for every student in the exact location of student residence. This enables DDP to analyze the student data in a geographic manner.

Another vital utilization of the digital street database is in the construction of study areas. Freeways, major streets and neighborhood streets are used as boundaries for the study areas.

2) Study Areas

Study areas are small geographic areas and the building blocks of a school district; they are similar to neighborhoods. Study areas are geographically defined following logical boundaries of the neighborhood, such as freeways, streets, railroad tracks, rivers, etc. Each study area is then coded with the elementary, middle and high school that the area is assigned to attend. By gathering information at the study area level, a school district can closely monitor growth and demographic trends in particular regions and spot potential need for boundary changes or new facilities.

<u>3) Schools</u>

The District provided school facility location information to DDP for the purpose of mapping the District facilities.

<u>4) Student Data</u>

a. Historical Student Data - Historical enrollment is used to compare past student population growth and trends as well as the effects of mobility (move-in, move-out from existing housing) throughout the District. DDP utilized the three (3) previous years' (2009/10, 2010/11 and 2011/12) address matched students as historical data. **b. Current Student Data** - A student data file representing the enrollment approximately for October, 2012 was geocoded this geocoded student file was summarized by grade level and by study area is used as a base for enrollment



projections. Existing students were categorized by study area through the address matching process that locates each student within a particular area based upon their given address. The projections run each of the next ten years from fall 2012/13 through fall 2022/23.

The Student Accounting Summary (Table 1) indicates the total student enrollment as of October, 2012 and the number of student used in the ten year student population projections. The projection model is based upon student residence and excludes students residing outside of the District's boundaries, students unable to be address matched and special education students (special education students usually attend a school that services their particular need) and independent study students.

<u>Student Accounting Summary</u> Fall 2012/13 Actual Enrollment (10/06/2012)

Total Students Provided by District File (Fall 12/13)	30,566
Students Living out of District	-148
Pre-K Students	-1,028
Students Unmatched	-41
Non Public Schools & Home School	-86
Continuation School	-114
STUDENTS USED IN PROJECTIONS	29,149
Table 1– Student Accounting Summary	

5) Future Residential Development

Planned residential development data is collected to determine the number of new residential units that will be built over the ten-year timeframe of the student population projections.

B - Non-Geographic Data

Two basic sets of non-geographic data were compiled and reviewed for use in the ten-year student population projections by residence:

- 1. Births by Zip Code
- 2. Mobility Factors

<u>1) Births by Zip Code Data</u> - Birth data by postal zip code was obtained from the California State Department of Health for the years 1991-2011 and roughly correlated to the West Contra Costa Unified School District. Past changes in historical birthrates are used to estimate incoming kindergarten student population from existing housing.

<u>2) Mobility Factors</u> - Mobility refers to the increase/decrease in the migration of students within the District boundaries (move-in/move-out of students from existing housing). Mobility, similar to a cohort, is applied as a percentage of increase/decrease among each grade for every year of the projections



<u>2 – PROJECTION METHODOLOGY</u>

The projection methodology used in this study combines historical student population figures, past and present demographic characteristics, and planned residential development to forecast future student population at the study area level. District-wide projections are summarized from the individual study area projections. These projections are based on where the students reside and their school of residence. DDP utilizes the actual location where students reside, as opposed to their school of enrollment, in order to provide the most accurate estimate of where future school facilities should be located. The best way to plan for future student population shifts is to know where the next group of students will reside. The following details the methodology used in preparing the student population projections by residence.

Projections Timeframe

Projections are usually calculated out seven (7) to ten (10) years from the date of projection for several reasons. The planning horizon for any type of facility is typically around five years. Seven to ten years are sufficient to adequately plan for student population shift and facility reorganization. It is a short to mid term solution for planning needs. Projections beyond Ten Years are based on speculation due to the lack of reliable information on birthrates, new home construction, economic conditions, etc.

At the Districts request DDP completed a Ten Year Student Population Projection.

Why Projections are Calculated by Residence

Typically, school district projections are based on enrollment by school. However, this method is inadequate when used to locate future school facility requirements, because the location of the students is not taken into consideration. A school's enrollment can fluctuate due to variables in the curriculum, program changes, school administration and open enrollment policies. These variables can skew the apparent need for new or additional facilities in an area.

The method used by DDP is unique because it modifies a standard cohort projection with demographic factors and actual student location. **DDP bases it's projections on the belief that school facility planning is more accurate when facilities are located where the greatest number of students reside.**

The following details the methodology used in preparing the student population projections.

<u>1</u>) **Progression** - Each year of the projections, 12th grade students graduate, and continuing students progress through to the next grade level and kindergarten students start schools. This normal progression of students is modified by the following factors:

2) Incoming Kindergarten & Transitional Kindergarten – Live birth data, reported to the California State Department of Health, by the resident postal zip code of the mother is used to project the base incoming kindergarten class. Additional kindergarten students may be added from future development. DDP uses birth data by zip code so, if need be, a different birth factor can be applied to various areas of the District.



Incoming kindergarten classes, for existing homes, are estimated by comparing changes in past births and birthrates. Table 2 shows the total births for each zip code in the West Contra Costa Unified School District from 1989 to 2011. Future kindergarten classes (2013/14-2022/23) are estimated by multiplying the existing kindergarten class (2012/13) by the ratio of the projected year's births to the 2007 births. Assuming that the Fall 2012/13 kindergarten class was born in 2007, DDP compared the total births in 2007 to the total births in 2008 to determine a factor for next year's kindergarten class (Fall 2013/14). Similarly, 2007 was compared to 2009 (Fall 2014/15 K class), 2007 to 2010 (Fall 2015/16 K class) and 2007 to 2011 (Fall 2016/17 K class).

The resulting projections are then modified further to account for transitional kindergarten. Birth data from the State of California is only made available by year and is not broken down by month. As a result DDP assumes that the total number of students born in a given year are distributed evenly amongst the months in order to create a working model.

DDP used birth data from the zip codes 94530, 94547, 94564, 94801, 94803, 94804, 94805 and 94806. There were 3,419 births in the baseline year of 2007. The data shows area births are lower in following years through 2011. This should lead to an increase in the kindergarten class size over the next 2 years. This would normally lead to a declining student K class in future years but the implementation of transitional kindergarten will work mask this effect as students are added to the K class from transitional kindergarten while the program is phased in. The end result will be a kindergarten population that peaks at 2,783 students in 2015.

West Contra Costa Unified School District

		<u></u>	m			<u></u>	т	1			<u></u>					<u></u>	굔					
		₫	0				lerc				_ ₹	2				₫	S S					
		Yea	클			Yea	lles				Yea	~ ~				Yea	ğ					
		-	94530			-	94547				_	94564				-	94801					
		4004	253			4004	295	1			4004	225				4004	709					
		1991	230			1991	283	1			1991	261				1991	699					
		1992	230			1992	200	1			1992	244				1992	711					
		1993	246			1993	202	1			1993	250				1993	667					
		1994	240			1994	203	1			1994	233				1994	620					
		1995	210			1995	230	1			1995	214				1995	570					
		1996	217			1996	200	1			1996	104				1996	510					
		1997	230			1997	220	-			1997	212				1997	564					
		1998	218			1998	220	1			1998	205				1998	530					
		1999	243			1999	108	1			1999	215				1999	571					
		2000	240			2000	232	1			2000	101				2000	571					
		2001	220			2001	202	1			2001	221				2001	501					
		2002	201			2002	225	1			2002	221				2002	664					
		2003	203			2003	223				2003	175				2003	685					
		2004	200			2004	210	-			2004	103				2004	553					
		2005	255			2005	205				2005	210				2005	575					
		2006	204	Birthrates	Year of	2006	200	Birthra	tes	Year of	2006	105	Birthrat	ies 1	rear of	2006	575	Birthrate	es	Year of		
		2007	297	used by DDP	Projection	2007	233	used by	P	rojection	2007	187	used by	UUP Pr	rojection	2007	572	used by I	JOP F	Projection		
		2008	2//	93.3%	2013	2008	2/3	93.39	%	2013	2008	107	101.19	%	2013	2008	572	101.49	6	2013		
		2009	209	97.3%	2014	2009	200	95.79	%	2014	2009	105	91.9%	6	2014	2009	612	105.59	6	2014		
		2010	2.54	85.5%	2015	2010	215	93.39	%	2015	2010	202	105.49	%	2015	2010	540	108.79	6	2015		
		2011	274	92.3%	2016	2011	200	95.79	%	2016	2011	202	109.29	%	2016	2011	540	95.7%	•	2016		
				92.3%	2017	1		95.79	%	2017			109.29	%	2017		-	95.7%	,	2017		
				92.3%	2018	-		95.79	%o	2018			109.29	% V	2018		-	95.7%		2018		
				92.3%	2019	-		95.79	%o	2019			109.25	%	2019		-	95.7%		2019		
				92.3%	2020	-		95.79	% /	2020			109.29	%	2020		-	95.7%		2020		
					20121			95.79	<i>/</i> o	2021			109.25	%	2021			95.7%	,	2021		
				92.376	2021	1		05.70		0000			400.00		0000			05 70		0000		
		,		92.3%	2022]		95.79	%	2022			109.29	%	2022			95.7%		2022		
œ	Es]		92.3%	2022]		95.79	<mark>ھ</mark>	2022 2			109.29	» 	2022 S			95.7%		2022		
Birth	El Sobr			92.3%	2022 Birth]		95.79	Birth	2022 Richm			109.29	% Birth	2022 San P			95.7%	Birth	2022		
Birth Year	El Sobrante			92.3%	2021 2022 Birth Year			95.79	Birth Year	2022 Richmond			109.29	Birth Year	2022 San Pablo			95.7%	Birth Year	2022 TI bry		
Birth Year	El Sobrante 94803			92.3%	2022 2022 Birth Year 94804			95.79	Birth Year	2022 Richmond 94805			109.29	Birth Year	2022 San Pablo 94806		. [95.7%	Birth Year	2022 Til br.yr		
Birth Year 1991	El Sobrante 94803 343			92.3%	2022 2022 Bith Year 94804 991 756			95.79	Birth Year 1991	2022 Richmond 94805 192			109.29	% Birth Year 1991	2022 San Pablo 94806 1,002			95.7%	Birth Year	2022 Ti brýr 3,851		
Birth Year 1991 1992	El Sobrante 94803 343 385			92.3%	2022 2022 Bith Chinnon 94804 991 756 992 820			95.79	Birth Year 1991 1992	2022 Richmond 94805 192 177			109.29	8 Birth Year 1991 1992	2022 San Pablo 94806 1,002 1,065			95.7%	Birth Year 1991 1992	2022 TI bry Yr 3,851 3,617		
Birth Year 1991 1992 1993	El Sobrante 94803 343 385 373			92.3%	2022 2022 Bit 22 94804 991 756 992 820 993 735			95.79	Birth Year 1991 1992 1993	2022 Richmoond 94805 192 177 201			109.29	Birth Year 1991 1992 1993	2022 San Pablo 94806 1,002 1,065 1,039		. [95.7%	Birth Year 1991 1992 1993	2022 Tlibryr 3,851 3,617 3,490		
Birth Year 1991 1992 1993 1994	EI Sobrante 94803 343 385 373 346			92.3%	2022 2022 94804 991 756 992 820 993 735 994 663			95.79	Birth Year 1991 1992 1993 1994	2022 Richmond 94805 192 177 201 182			109.29	Birth Year 1991 1992 1993 1994	2022 San Pablo 94806 1,002 1,065 1,039 985		, [95.7%	Birth Year 1991 1992 1993 1994	2022 Tlibryr 3,851 3,617 3,490 3,363		
Bitth Year 1991 1992 1993 1994 1995	E Sobrante 94803 343 385 373 346 352			92.3%	2022 2022 881 26 94804 991 756 992 820 993 735 994 663 995 629			95.79	Bith Year 1991 1992 1993 1994 1995	2022 2022 2022 94805 192 177 201 182 168			109.2%	Birth Year 1991 1992 1993 1994 1995	2022 San Pablo 94806 1,002 1,065 1,039 985 1,006		, [95.7%	Birth Year 1991 1992 1993 1994 1995	2022 Ttl bryyr 3,851 3,617 3,490 3,363 3,133		
Birth Year 1991 1992 1993 1994 1995 1996	EI Sobrante 94803 343 385 373 346 352 338			92.3%	2022 2022 Bit 22 994804 991 756 992 820 993 735 994 663 995 629 996 617			95.79 - - - - - - - - - - - - - - - - - - -	Bith Ten 1991 1992 1993 1994 1995 1996	2022 2022 2022 94805 192 177 201 182 168 158 158			109.22	80000000000000000000000000000000000000	2022 San Pablo 94806 1,002 1,065 1,039 985 1,006 926		, [95.7%	Birth Year 1991 1992 1993 1994 1995 1996	2022 TH bryyr 3,851 3,617 3,490 3,363 3,133 3,127 2		
Bitt Year 1991 1992 1993 1994 1995 1996 1997	EI Sobrante 94803 343 385 373 346 352 338 282 285			92.3%	2022 2022 2022 2022 994804 991 756 992 820 993 735 994 663 995 629 996 617 997 614			95.79 - - - - - - - - - - - - - - - - - - -	Bit Year 1991 1992 1993 1994 1995 1996 1997 1997	2022 2022 2022 2022 202 94805 192 177 201 182 168 158 177 201 182 168 158			109.22	80000000000000000000000000000000000000	2022 San Pablo 94806 1,002 1,005 1,039 985 1,006 926 893		, [95.7%	Birth Year 1991 1992 1993 1994 1995 1996 1997	2022 11 by 3,851 3,617 3,490 3,363 3,133 3,127 3,093		
Birth Year 1991 1992 1993 1994 1995 1996 1997 1998	E Sobrante 94803 343 385 373 346 352 338 282 282 282 282 282 282 285			92.3% 92.3%	2022 2022 81 94804 991 756 992 820 993 735 994 663 995 629 996 617 997 614 998 590			95.79 - - - - - - - - - - - - - - - - - - -	Bith Year 1991 1992 1993 1994 1995 1996 1997 1998	2022 2022 2022 94805 192 177 201 182 168 158 177 148 477			109.29	8 Birth Year 1991 1992 1993 1994 1995 1996 1997 1998	2022 San Pablo 94806 1,002 1,065 1,039 985 1,006 926 893 877 802		. [95.7%	Birth Year 1991 1992 1993 1994 1995 1996 1997 1998	2022 11 12 14 15 15 16 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17		
Birth Year 1991 1992 1993 1994 1995 1996 1997 1998 1999	E Sobrante 94803 343 385 373 346 352 338 282 282 282 282 282 282 287 7 289			92.3% 92.3% 1 1 1 1 1 1 1 1 1 1	2022 2022 94804 991 756 992 820 993 735 994 6629 995 629 995 629 995 614 997 614 998 590			95.79 - - - - - - - - - - - - - - - - - - -	Bitty Year 1991 1992 1993 1994 1995 1996 1997 1998 1998 1999	2022 2022 2022 94805 192 177 201 182 168 158 177 148 177 148 177			109.29	8 Birth Year 1991 1992 1993 1994 1995 1996 1997 1998 19998	2022 Sam Pable 94806 1,002 1,065 1,039 985 1,006 926 893 877 862 942		. [95.7%	Bitth Year 1991 1992 1993 1994 1995 1996 1997 1998 1999	2022 11 12 14 15 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17		
Bith Year 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000	E Sobrante 94803 343 385 373 346 352 338 282 286 282 286 277 286 277 288 292			92.3% 92.3% 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2	2022 2022 94804 991 756 992 820 993 735 994 663 995 6617 997 614 998 590 999 583 900 669			95.79 	Bitty Year 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000	2022 2022 94805 192 177 201 182 168 158 177 148 177 148 177 192			109.29	Bitty Year 1991 1992 1993 1995 1996 1997 1998 1997 1998 1999	2022 San Pablo 94806 1,002 1,065 1,039 985 1,006 926 893 877 862 943 800		. [95.7%	Bitth Year 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000	2022 3,851 3,851 3,617 3,490 3,363 3,133 3,127 3,093 3,231 3,220 3,204		
Bith Year 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2000 2000	E Sobrante 94803 343 385 373 346 352 338 282 286 277 288 287 288 282 285			92.3% 92.3% 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2 2	2022 2022 94804 94804 991 756 992 820 993 735 994 663 995 629 995 617 996 590 997 614 998 590 999 583 000 609 001 641			95.79 	Bit 1991 1992 1993 1994 1995 1996 1997 1998 1999 20001 20002	2022 2022 94805 192 177 201 182 168 158 177 148 177 148 177 152 196			109.29	Bitty rear 1991 1992 1993 1994 1995 1996 1997 1998 1999 20001 2002	2022 San Pablo 94806 1,002 1,065 1,039 985 1,006 926 893 877 862 943 890 943		. [95.7%	Bitth Year 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001	2022 Thyse 3,851 3,617 3,363 3,363 3,313 3,127 3,093 3,221 3,220 3,300 3,300 3,300		
Bit Year 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002	El sobrante 94803 343 385 373 346 352 338 282 286 277 288 283 283 283 283 317			92.3% 92.3% 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2 2 2 2 2	2022 2022 94804 991 756 992 820 993 735 994 663 995 629 996 617 997 614 998 590 998 590 999 583 000 609 001 641 002 639 003 658			95.79 	% Bitty Year 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002	2022 2022 94805 192 177 201 182 168 158 177 148 177 148 177 148 177 152 196 153 161			109.29	Birth Year 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002	2022 94806 1,002 1,065 1,039 985 1,006 926 893 877 862 943 890 970		. [95.7%	Birth Year 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002	2022 Turpey 3,851 3,617 3,490 3,363 3,127 3,093 3,231 3,220 3,300 3,434 3,294		
80 1991 1992 1993 1994 1995 1996 1997 1996 1999 2000 2001 2002 2004	94803 343 345 373 346 352 338 282 286 277 288 283 285 283 285 317 3144			92.3% 92.3% 1 1 1 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2	2022 2022 94804 991 756 992 820 993 735 994 6629 995 629 995 629 995 641 995 641 997 614 998 590 999 583 000 609 001 641 002 639 003 658			95.7%	Bitty Year 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004	2022 2022 2022 2022 202 192 192 177 201 182 168 158 177 148 177 152 196 153 161 195			109.29	8 8 1991 1992 1993 1994 1995 1996 1999 2000 2001 2002 2004 2004	2022 94806 1,002 1,065 1,006 926 893 877 862 943 890 970 9779 934		. [95.7%	Birth Year 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004	2022 Tel prove 3,851 3,617 3,900 3,303 3,133 3,127 3,093 3,210 3,200 3,300 3,434 3,299 3,231		
80 1991 1992 1993 1994 1995 1995 1995 1997 1998 1999 2000 2001 2002 2004 2004	E Sobrante 94803 343 385 373 346 352 338 282 286 277 288 283 285 317 288 283 285 317 144 278			92.3% 92.3% 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2021 2022 94804 991 756 992 820 993 735 994 663 995 663 996 663 996 663 995 663 996 663 996 663 996 663 990 663 990 663 990 663 990 663 990 663 990 663 900 600 900 600 900 603 900 603 900 603 900 603 900 603 900 603 900 603 900 603 900 603 900 605 900 600 900 600 900 900 600 900 900 900 900 900 900 900 900 900			95.7% - - - - - - - - - - - - - - - - - - -	Bith Year 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2005	2022 2022 2022 2022 202 192 192 177 201 182 168 158 177 182 196 153 161 195 196 153 161 197 8			109.2%	% Bit 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2005	2022 94806 1,002 1,065 1,039 985 1,006 926 893 877 862 943 890 970 970 979 934		. [95.7%	Birth Year 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005	2022 Tel pryc 3,851 3,617 3,903 3,133 3,137 3,093 3,231 3,221 3,220 3,300 3,434 3,299 3,281 3,249		
80 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005	ESobrante 94803 343 385 373 346 352 282 286 277 286 277 286 283 285 317 144 285 317 144 2252	Bithrates	Year of	92.3% 92.3% 92.3% 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2021 2022 2021 2021 2021 2021 2021 2021 2021 2021 2022 2021 2022 94204 991 2021 992 993 995 996 999 614 998 999 639 999 630 999 631 999 632 990 991 633 993 639 994 639 630 995 630 996 614 997 614 902 633 903 658 904 905 <th>Birthrates</th> <th>Year of</th> <th>95.7% </th> <th>Bit Year 1991 1992 1993 1994 1995 1995 1996 1997 1998 2000 2001 2002 2004 2005 2006 2006</th> <th>2022 2022 2022 2022 202 202 192 192 192 192 192 192 188 168 158 158 177 148 158 177 148 177 153 161 195 178 181</th> <th>Bithrates</th> <th>Year of</th> <th>109 22</th> <th>80 994 1992 1993 1995 1996 1997 1998 1999 2000 2004 2005 2006</th> <th>2022 94806 1,002 1,065 1,039 985 1,006 926 893 893 897 943 890 977 934 964 964</th> <th>Birthrates</th> <th>Year of</th> <th>95.7%</th> <th>Bitty Year 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2005</th> <th>2022 Thypy: 3,851 3,617 3,647 3,900 3,363 3,133 3,133 3,127 3,093 3,231 3,200 3,303 3,231 3,249 3,249 3,229</th> <th>Birthrates</th> <th>Year of</th>	Birthrates	Year of	95.7% 	Bit Year 1991 1992 1993 1994 1995 1995 1996 1997 1998 2000 2001 2002 2004 2005 2006 2006	2022 2022 2022 2022 202 202 192 192 192 192 192 192 188 168 158 158 177 148 158 177 148 177 153 161 195 178 181	Bithrates	Year of	109 22	80 994 1992 1993 1995 1996 1997 1998 1999 2000 2004 2005 2006	2022 94806 1,002 1,065 1,039 985 1,006 926 893 893 897 943 890 977 934 964 964	Birthrates	Year of	95.7%	Bitty Year 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2005	2022 Thypy: 3,851 3,617 3,647 3,900 3,363 3,133 3,133 3,127 3,093 3,231 3,200 3,303 3,231 3,249 3,249 3,229	Birthrates	Year of
Bit Year 1991 1992 1993 1994 1994 1995 1996 1997 1998 19990 20001 2001 2002 2003 2004 2006 2007 2007	B 944803 343 3385 3733 346 352 283 282 288 2777 288 287 338 283 317 144 278 252 337	Birthrates	Year of Projection	92.3% 92.3% 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2021 2022 2011 2021 2021 2021 2021 2021 2021 2021 2021 2021 2021 2021 2021 2022 2021 2022 2021 2022 2021	Birthrates used by DDP	Year of		Bit Year 1991 1992 1993 1994 1995 1995 1997 1998 1997 2000 2001 2002 2004 2005 2006 2007	2022 2022 2022 2022 2022 2022 201 201	Birthrates used by DDP	Year of		% Bit of the second	2022 94806 1,002 1,065 1,006 985 1,006 893 877 862 9433 877 862 970 979 934 964 962	Birthrates used by DDP	Year of Projection	95.7%	Bitty Year 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007	2022 Tel prove 3,851 3,617 3,490 3,434 3,231 3,220 3,303 3,231 3,220 3,303 3,434 3,299 3,281 3,231 3,249 3,231 3,249 3,231 3,249 3,299 3,291 3,299	Birthrates used by DDP	Year of Projection
Bit Final State 1991 1992 1993 1994 1994 1995 1997 1998 1999 2000 2001 2002 2003 2004 2006 2007 2008 2007 2008 2007	B Solution 944803 343 343 385 3733 346 3552 283 282 286 2777 288 2833 285 317 144 278 285 317 144 278 282 285 317 144 278 252 283 269 269	Birthrates used by DDP 113.0%	Year of Projection 2013	92.3% 92.3% 92.3% 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2	2021 2022 2022 94804 991 756 992 820 993 735 994 663 995 629 996 617 997 614 998 590 900 609 001 641 002 639 003 658 004 704 005 627 006 658 007 596 008 601	Birthrates used by DDP 100.8%	Year of Projection 2013		Bit Test 1991 1992 1993 1994 1995 1996 1997 1998 2000 2001 2002 2003 2004 2005 2006 2007 2008 2008	2022 94805 192 177 201 182 178 188 177 148 177 148 177 148 177 158 158 177 148 157 161 153 161 195 173 161 163 164 165	Birthrates used by DDP 100.6%	Year of Projection		% Bit / text 1991 1992 1993 1994 1995 1996 1997 1998 2000	2022 94806 1,002 1,005 1,006 1,006 9885 1,006 893 877 862 943 877 862 943 970 979 979 934 962 960 949	Birthrates used by DDP 98.9%	Year of Projection 2013	95.7%	1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006	2022 The provided and a set of the set of t	Birthrates used by DDP 98.8%	Year of Projection 2013
Bit Y ar - 1991 1992 1993 1994 1995 - 1996 1999 2000 2001 2002 2003 2004 2005 2005 2006 2007 2009 2009 2009	B So 94803 343 343 385 373 346 352 338 285 286 287 288 283 317 144 278 252 238 285 237 286 285 287 285 286 285 287 285 288 285 289 285 289 286 280 285 281 285 301 144 278 286 289 289 289 289 289 289	Birthrates used by DDP 113.0% 109.2%	Year of Projection 2013 2014	92.3% 92.3% 92.3% 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2021 2022 2022 94804 991 756 992 820 993 735 994 663 995 617 998 590 999 583 000 609 001 641 002 639 003 658 004 704 005 627 006 658 007 596 008 601 009 633	Birthrates used by DDP 100.8%	Year of Projection 2013		Bit Year 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2009	2022 202 2022 2	Birthrates used by DDP 100.6% 97.6%	Year of Projection 2013 2014		% Bitty 1995 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2005 2007 2008	2022 94806 1,002 1,005 1,006 926 833 1,006 926 833 843 843 843 843 943 954 954 954 954 964 962 964 964 962 964 964 965 964 965 979 9034 965 979 9034 965 979 9034 965 979 9034 965 979 9034 965 979 9034 965 979 9034 965 979 9034 965 979 9034 965 979 9034 965 979 9034 979 9034 9034 9034 9036 979 9034 9034 9034 9034 9036 9036 9036 9036 9036 9056 9036	Birthrates used by DDP 98.9% 104.7%	Year of Projection 2013 2014	95.7%	1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2006	2022 2022 3,851 3,617 3,490 3,363 3,133 3,127 3,093 3,231 3,220 3,300 3,434 3,229 3,311 3,229 3,233 3,249 3,293 3,249 3,293 3,249 3,293 3,293 3,219 3,293 3,219 3,293 3,219 3,293 3,219 3,293 3,219 3,293 3,219 3,293 3,219 3,219 3,219 3,219 3,220 3,219 3,220 3,320 3,30	Birthrates used by DDP 98.8% 92.2%	Year of Projection 2014
Bit Y ar 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 20002 2004 2005 20006 2007 2008 20009 2010 2010	B 94803 94803 343 365 373 346 352 338 282 282 283 286 287 288 283 285 287 288 283 285 286 287 288 283 285 285 285 285 285 285 285 285 285 285 286 287 288 289 284	Birthrates used by DDP 113.0% 109.2% 123.5%	Year of Projection 2014 2015	92.3% 92.3% 92.3% 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2021 2022 2022 2021 2022 2021 2022 2022 2022 2022 2024 2025 2026 2027 2028 2029 2021 2022 2022 2022 2022 2022 2024 2020 2021 2022 2021 2022 2021 2022 2021	Birthrates used by DDP 100.8% 91.6%	Year of Projection 2013 2014 2015		Bit Yes 1991 1992 1993 1994 1995 1995 1997 1998 1999 2000 2001 2003 2004 2005 2005 2006 2007 2009 2010 2010	2022 94805 192 177 201 182 168 158 177 148 157 196 153 161 152 195 178 181 166 160 160 160 160 160	Birthrates used by DDP 100.6% 97.6%	Year of Projection 2013 2014 2015		% Bitty 1994 1995 1994 1995 1996 1997 1998 2000 2001 2003 2004 2005 2005 2006 2007 2008 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009	2022 94806 1,002 1,005 1,006 926 893 1,006 926 893 8970 943 964 962 964 962 969 949 1,005 1,005	Birthrates used by DDP 98.9% 104.7% 105.1%	Year of Projection 2013 2014 2015	95.7%	Bith Year 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2000 2009 2009 2000	2022 2022 3,851 3,617 3,963 3,363 3,133 3,127 3,093 3,213 3,220 3,300 3,434 3,229 3,331 3,249 3,293 3,249 3,293 3,249 3,293 3,249 3,293 3,249 3,293 3,249 3,293 3,249 3,293 3,249 3,293 3,249 3,293 3,249 3,293 3,249 3,293 3,249 3,293 3,249 3,251 3,263 3,275 3,299 3,275 3,299 3,279 3,293 3,293 3,219 3,293 3,219 3,293 3,219 3,293 3,219 3,293 3,219 3,293 3,219 3,293 3,219 3,293 3,219 3,293 3,219 3,293 3,219 3,293 3,219 3,293 3,219 3,293 3,293 3,219 3,293 3,293 3,219 3,293 3,219 3,293 3,219 3,293 3,219 3,293 3,219 3,293 3,219 3,293 3,219 3,293 3,219 3,293 3,219 3,21	Birthrates used by DDP 98.8% 92.2% 88.7%	Year of Projection 2013 2014 2015
Bit Bit 1991 1992 1993 1994 1995 1996 1997 1998 1999 2001 2001 2002 2004 2006 2006 2007 2008 2009 2001 2010 2010 2011	B 94803 343 385 373 346 352 338 282 282 286 277 288 282 283 284 285 3117 282 283 284 285 286 287 288 289 280 280 280 280 280 280 280 280 280 280 280 280 281 282 284 284	Birthrates used by DDP 113.0% 109.2% 123.5% 102.5%	Year of Projection 2013 2014 2015 2016	92.3% 92.3% 92.3% 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2021 2022 2021 2021 2021 2021 2021 2021 2021 2021 2021 2021 2021 2021 2021 2022 2021 2022 2021 2022 2021	Birthrates used by DDP 100.8% 91.6% 100.5%	Year of Projection 2013 2014 2015 2016		Bit Sector 1991 1992 1993 1994 1995 1995 1996 1997 1998 2000 2001 2002 2005 2005 2006 2007 2008 2009 2001 2010 2011 2011	2022 94805 192 1777 201 182 158 158 158 158 157 148 158 153 161 152 196 153 161 152 196 153 161 152 196 153 161 165 165 166 166 166 145	Birthrates used by DDP 100.6% 97.6% 101.2% 101.2%	Year of Projection 2013 2014 2015 2016		% Bitty 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2000 2000 2005 2006 2005 2006 2007 2008 2009 2001 2010 2011	2022 94806 1,002 1,065 1,039 985 1,006 926 883 897 943 890 979 979 943 842 962 964 962 964 964 964 964 964 964 964 965 965 976 976 976 977 977 978 978 978 978 978 978	Birthrates used by DDP 98.9% 104.7% 105.1% 88.2%	Year of Projection 2013 2014 2015 2016	95.7%	Bith Year 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2000 2000 2001 2009 2000	2022 Tel provide the second state of the seco	Birthrates used by DDP 98.8% 92.2% 88.7% 88.7%	Year of Projection 2013 2014 2015 2016
B 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2002 2003 2004 2005 2006 2007 2008 20000 2010 2010 2011	B 94803 343 385 373 346 352 288 283 283 285 317 144 278 283 285 317 144 278 282 283 284 289 260 294 244	Birthrates used by DDP 113.0% 109.2% 123.5% 102.5%	Year of Projection 2013 2014 2015 2016 2017	92.3% 92.3% 92.3% 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2021 2022 2021 2021 2021 2021 2022 2021 2022 94204 91 756 992 993 995 996 997 614 998 999 633 001 002 003 658 007 996 003 658 007 996 003 658 007 996 007 996 003 066 007 996 011 997	Birthrates used by DDP 100.8% 91.6% 91.6% 100.5%	Year of Projection 2013 2014 2015 2016 2017		Bit Year 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2001 2002 2003 2006 2006 2006 2006 2006 2006 2006 2006 2010 2011	2022 94805 192 177 201 182 168 158 157 148 157 148 157 196 152 196 153 161 195 152 196 152 196 152 196 152 168 152 196 152 196 152 196 152 152 168 155 168 168 155 168 155 168 155 168 155 168 155 168 168 168 155 168 168 155 168 168 168 155 168 168 168 155 168 168 168 168 155 168 168 168 168 168 168 168 168	Birthrates used by DDP 100.6% 97.6% 101.2% 88.4%	Year of Projection 2013 2014 2015 2016 2017		% Bitty Year 1991 1992 1993 1994 1995 1996 1997 1998 1999 20001 20002 20004 2005 2006 2010 2010 2010	2022 94806 1,002 1,065 1,039 985 1,006 926 883 877 862 943 890 970 979 934 964 962 964 962 964 962 964 962 964 964 965 1,009 847	Birthrates used by DDP 98.9% 104.7% 105.1% 88.2%	Year of Projection 2013 2014 2015 2016 2017	95.7%	80000000000000000000000000000000000000	2022 2022 2022 2022 2022 2025	Birthrates used by DDP 98.8% 92.2% 88.7% 86.6%	Year of Projection 2013 2014 2015 2016 2017
B 1991 1992 1993 1994 1995 1995 1997 1998 1999 2000 2001 2002 2003 2004 2006 2007 2008 2009 2010 2011	B 94803 343 335 373 346 352 283 282 288 287 288 287 317 144 278 282 283 285 317 144 278 288 289 260 294 244	Birthrates used by DDP 113.0% 109.2% 123.5% 102.5% 102.5%	Year of Projection 2013 2014 2015 2016 2017 2018	92.3% 92.3% 92.3% 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2021 2022 2021 2021 94204 941 950 952 950 956 959 956 957 956 957 958 959 950 951 956 957 614 958 959 950 951 956 957 614 958 950 950 951 952 953 950 951 952 953 954 955 956 957 958 959 951 952 953 954 955 956 <td>Birthrates used by DDP 100.8% 9106.2% 9106.5% 100.5%</td> <td>Year of Projection 2013 2014 2015 2016 2017 2018</td> <td></td> <td>Bit Year 1991 1992 1993 1994 1995 1995 1996 1996 1997 1998 1999 2001 2002 2003 2004 2006 2006 2006 2006 2009 2010 2011</td> <td>2022 2022 2025 2025 2025 2016 192 1777 2011 1822 1777 1488 1778 1788 1811 1644 1655 1640 1645 1</td> <td>Birthrates used by DDP 100.8% 97.6% 101.2% 88.4% 88.4%</td> <td>Year of Projection 2013 2014 2015 2016 2017 2018</td> <td></td> <td>% Bitty 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2006 2006 2006 2006 2006 2006 2010 2011</td> <td>2022 94806 1,002 1,065 965 985 893 877 862 943 890 970 979 934 964 964 964 962 962 960 949 1,005 1,005 1,009 847</td> <th>Birthrates used by DDP 98.9% 104.7% 105.1% 88.2% 88.2%</th> <td>Year of Projection 2013 2014 2015 2016 2017 2018</td> <td>95.7%</td> <td>80000000000000000000000000000000000000</td> <td>2022 Thyper 3,851 3,617 3,490 3,434 3,231 3,231 3,231 3,231 3,231 3,231 3,231 3,231 3,241 3,303 3,241 3,324 3,299 3,281 3,324 3,299 3,281 3,299 3,281 3,299 3,293 3,219 3,293 3,219 3,295 3,219 3,220 3,231 3,220 3,231 3,232 3,231 3,232 3,231 3,231 3,232 3,231 3,231 3,243 3,245 3,252 3,033 2,962</td> <td>Birthrates used by DDP 98.8% 92.2% 88.7% 88.6% 86.6% 86.6%</td> <td>Year of Projection 2013 2014 2015 2016 2017 2018</td>	Birthrates used by DDP 100.8% 9106.2% 9106.5% 100.5%	Year of Projection 2013 2014 2015 2016 2017 2018		Bit Year 1991 1992 1993 1994 1995 1995 1996 1996 1997 1998 1999 2001 2002 2003 2004 2006 2006 2006 2006 2009 2010 2011	2022 2022 2025 2025 2025 2016 192 1777 2011 1822 1777 1488 1778 1788 1811 1644 1655 1640 1645 1	Birthrates used by DDP 100.8% 97.6% 101.2% 88.4% 88.4%	Year of Projection 2013 2014 2015 2016 2017 2018		% Bitty 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2006 2006 2006 2006 2006 2006 2010 2011	2022 94806 1,002 1,065 965 985 893 877 862 943 890 970 979 934 964 964 964 962 962 960 949 1,005 1,005 1,009 847	Birthrates used by DDP 98.9% 104.7% 105.1% 88.2% 88.2%	Year of Projection 2013 2014 2015 2016 2017 2018	95.7%	80000000000000000000000000000000000000	2022 Thyper 3,851 3,617 3,490 3,434 3,231 3,231 3,231 3,231 3,231 3,231 3,231 3,231 3,241 3,303 3,241 3,324 3,299 3,281 3,324 3,299 3,281 3,299 3,281 3,299 3,293 3,219 3,293 3,219 3,295 3,219 3,220 3,231 3,220 3,231 3,232 3,231 3,232 3,231 3,231 3,232 3,231 3,231 3,243 3,245 3,252 3,033 2,962	Birthrates used by DDP 98.8% 92.2% 88.7% 88.6% 86.6% 86.6%	Year of Projection 2013 2014 2015 2016 2017 2018
B 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2006 2007 2008 2009 2010 2011	B 944803 343 3385 3733 346 352 283 282 286 2777 288 283 317 144 278 285 317 144 278 262 283 269 269 269 269 264 244	Birthrates used by DDP 113.0% 109.2% 123.5% 102.5% 102.5%	Year of Projection 2013 2014 2015 2016 2017 2018 2019	92.3% 92.3% 92.3% 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2021 2022 2021 2022 94804 991 756 992 820 993 735 994 663 995 633 996 617 997 614 998 590 999 583 900 641 998 590 901 641 998 590 901 641 902 639 001 641 002 639 003 658 004 641 005 627 006 658 007 596 99 533 99 633 910 546 911 599	Birthrates used by DDP 100.8% 91.6% 100.5% 100.5%	Year of Projection 2013 2014 2015 2016 2017 2018 2019		Bit Year 1991 1992 1993 1994 1995 1995 1996 1996 1997 1998 1999 2000 2001 2001 2002 2001 2005 2006 2007 2008 2009 2010 2011 2011	2022 2022 202 202 202 202 202 202 202 2	Birthrates used by DDP 100.6% 97.6% 101.2% 88.4% 88.4% 88.4%	Year of Projection 2013 2014 2016 2017 2018 2019		% Bitty 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2004 2005 2006 2007 2008 2009 2011	2022 94806 1,002 1,065 1,039 985 1,006 893 877 862 943 877 862 943 970 979 934 964 962 960 949 1,005 1,009 847	Birthrates used by DDP 98.9% 104.7% 105.1% 88.2% 88.2% 88.2%	Year of Projection 2013 2014 2015 2016 2017 2018 2019	95.7%	Bith Year 1991 1992 1993 1994 1995 1996 1997 2000 2001 2002 2003 2004 2005 2006 2007 2008 2006 2007 2008 2009 2010	2022 Thypy: 3,851 3,617 3,490 3,363 3,127 3,093 3,231 3,220 3,201 3,220 3,231 3,221 3,231 3,231 3,249 3,331 3,249 3,231 3,249 3,231 3,249 3,231 3,232 3,231 3,231 3,232 3,231 3,232 3,303 2,296 3,303 2,962	Birthrates used by DDP 98.8% 92.2% 88.7% 88.6% 88.6% 88.6% 88.6%	Year of Projection 2013 2014 2015 2016 2017 2018 2019
Bit Series 1991 1992 1993 1994 1995 1996 1999 2000 2001 2002 2003 2004 2005 2006 2000 2008 20010 2008 20010 2011	B Solution 94803 343 343 385 373 346 352 282 286 277 288 285 2771 288 285 317 144 278 252 289 260 269 269 260 294 244	Birthrates used by DDP 113.0% 109.2% 123.5% 102.5% 102.5% 102.5%	Year of Projection 2013 2014 2015 2016 2017 2018 2019 2020	92.3% 92.3% 92.3% 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2021 2022 2022 94804 991 756 992 820 993 735 994 663 995 614 998 590 999 583 000 609 001 641 002 633 004 704 005 627 006 663 007 596 003 658 004 704 005 627 006 641 007 596 004 704 005 627 006 658 007 596 004 599	Birthrates used by DDP 100.8% 106.2% 91.6% 100.5% 100.5%	Year of Projection 2013 2014 2015 2016 2017 2018 2019 2020		Bit Year 1991 1992 1993 1994 1995 1996 1997 1996 1997 1998 2000 2001 2001 2002 2004 2004 2005 2006 2009 20010 2010 2011	2022 94806 192 177 201 182 177 148 177 148 177 148 177 148 177 152 158 158 177 148 157 166 161 165 166 165 166 165 166 165 165	Birthrates used by DDP 100.6% 101.2% 88.4% 88.4% 88.4% 88.4% 88.4%	Year of Projection 2013 2014 2015 2016 2017 2018 2019 2019 2020		% Bit 1991 1992 1993 1994 1995 1996 1997 1998 2000 2001 2004 2005 2006 2007 2008 2009 2010 2011	2022 94806 1,002 1,065 926 927 1,006 926 833 877 880 943 880 979 979 934 964 962 934 964 962 949 1,005 1,009 847	Birthrates used by DDP 98.9% 104.7% 105.1% 88.2% 88.2% 88.2% 88.2%	Year of Projection 2014 2015 2016 2017 2018 2019 2019 2020	95.7%	80000 1991 1992 1993 1994 1995 1996 1997 1998 2000 2001 2002 2003 2004 2005 2006 2006 2007 2008 2009 2010 2011	2022 2022 3,851 3,617 3,640 3,363 3,133 3,127 3,093 3,211 3,220 3,300 3,434 3,229 3,249 3,249 3,249 3,249 3,249 3,249 3,249 3,249 3,249 3,249 3,249 3,251 3,375 3,251 3,251 3,265 3,419 3,525 3,303 2,962	Birthrates used by DDP 98.8% 92.2% 88.7% 88.6% 88.6% 86.6% 86.6% 86.6%	Year of Projection 2013 2014 2015 2016 2017 2018 2019 2020
Bit Y ar 1991 1992 1993 1994 1995 1996 1997 1997 2000 2001 2003 2003 2004 2005 2006 2007 2008 20010 2010 20101 2011	B 94803 343 335 335 338 282 282 283 286 277 288 283 285 2771 288 282 283 285 287 288 282 283 285 285 286 287 288 289 280 294 244	Birthrates used by DDP 113.0% 109.2% 123.5% 102.5% 102.5% 102.5% 102.5%	Year of Projection 2013 2014 2015 2016 2017 2018 2019 2020 2020	92.3% 92.3% 92.3% 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2021 2022 2022 2022 981 994 991 756 992 993 995 996 997 614 998 999 000 001 641 002 003 658 004 005 006 007 996 601 599	Birthrates used by DDP 100.8% 91.6% 100.5% 100.5% 100.5%	Year of Projection 2013 2014 2015 2016 2017 2018 2019 2020 2021		Bit Second	2022 94805 192 1777 201 182 168 158 1777 148 153 161 153 161 153 165 153 161 153 165 153 165 153 165 165 165 166 145 166 145	Birthrates used by DDP 100.6% 97.6% 88.4% 88.4% 88.4% 88.4% 88.4% 88.4%	Year of Projection 2013 2014 2015 2016 2017 2018 2019 2020 2020		% BBD 1991 1992 1993 1994 1995 1996 1997 1998 2000 20001 20002 20004 2005 2006 2007 2008 2009 2001 2002 2003 2004 2005 2006 2007 2010 2011	2022 94806 1,002 1,005 1,006 926 893 1,006 926 893 8970 943 964 962 949 954 962 960 949 1,005 1,009 847	Birthrates used by DDP 98.9% 104.7% 105.1% 88.2% 88.2% 88.2% 88.2% 88.2%	Year of Projection 2013 2014 2015 2016 2017 2018 2019 2020 2020	95.7%	1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2002 2002 2002 2004 2005 2006 2007 2008 2009 2001 2001	2022 2022 3,851 3,617 3,903 3,313 3,217 3,093 3,231 3,220 3,300 3,434 3,229 3,300 3,434 3,229 3,331 3,249 3,233 3,249 3,233 3,249 3,233 3,249 3,233 3,249 3,233 3,249 3,251 3,262	Birthrates used by DDP 98.8% 92.2% 88.7% 88.6% 86.6% 86.6% 86.6% 86.6%	Year of Projection 2013 2014 2015 2016 2017 2018 2019 2020 2020 2021

Table 2- Birth Data



<u>3) Student Mobility Factors</u> - Student mobility factors further refine the ten-year student population projections. Mobility refers to the increase/decrease in the migration of students within the District boundary (move-in/move-out of students from existing housing). Mobility, similar to a cohort, is applied as a percentage to each grade for every year of the projections.

A net increase or decrease of zero students over time is represented by a factor of 100% (1.0). A net student loss is represented by a factor less than 100% (1.00) and a net gain by a factor greater than 100% (1.00) (see example).

Example:

1008th grade students in fall 2012/13X.922 (9th Grade mobility Crespi M.S. east area)=92.210th Grade students in Fall 2013/14

Having historical student data categorized by study area is extremely helpful in calculating accurate Student Mobility Factors. DDP was able to utilize the last four years' (Fall 2009/10, 2010/11, 2011/12 and 2012/13) student data. The data was organized into four yearly groups and then changes in the individual grades were examined. For example, a comparison was made for the Fall 2009/10 K student population to the Fall 2010/11 1st grade students. This comparison was also conducted for the Fall 2010/11 to Fall 2011/12 and the Fall 20011/12 to Fall 2012/13 students.

Using historic student data by study area allows DDP to calculate and apply unique mobility factors to various portions of the district. The W.C.C.U.S.D. has various neighborhood compositions and density. DDP originally created mobility factors by middle school attendance area. Upon examination it was determined that the projections would be more accurate if those areas were broken down even further. Interstate 80 was used to split some of the middle school attendance area into east and west portions. Mobility was then applied by these areas.

	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
Crespi MS (East)	1.030	0.947	1.005	0.966	0.981	0.954	0.887	0.938	0.922	0.985	1.044	0.903
Crespi MS (West)	1.005	0.986	1.012	0.981	0.966	0.963	0.873	1.046	0.939	1.018	0.951	1.048
De Jean MS	1.048	0.953	0.989	0.968	0.942	0.911	0.919	0.982	0.735	1.027	0.972	0.996
Helms MS	1.048	0.971	1.006	1.002	0.930	0.926	0.998	0.922	0.959	1.022	0.994	1.026
Hercules MS (East)	1.047	0.997	0.940	1.015	0.951	1.029	1.076	1.029	0.978	0.979	0.974	0.992
Herclues MS (West)	1.021	0.908	0.979	0.992	0.976	1.052	1.096	1.072	1.044	0.982	1.037	1.007
Pinole MS (East)	0.948	1.050	0.975	0.991	1.014	1.024	0.990	0.980	1.063	1.079	0.958	0.963
Pinole MS (West)	1.068	0.987	0.987	1.014	0.968	0.983	1.056	0.981	1.039	0.968	0.983	0.960
Portola MS (East)	1.009	0.978	0.997	1.002	0.942	0.879	0.863	1.060	1.442	1.042	1.038	0.946
Portola MS (West)	1.069	0.990	0.995	1.075	0.982	0.888	0.979	0.994	1.307	1.023	1.005	1.032
District Average	1.029	0.977	0.988	1.001	0.965	0.961	0.974	1.000	1.043	1.013	0.996	0.987



<u>4) Planned Residential Development</u> – Planned residential development data is collected to determine the number of new residential units that will be built over the ten-year timeframe of the student population projections. The units projected to be built within the next ten years will have the appropriate Student Yield Factor, Table 4, applied to them to determine the number of new students planned residential development will yield.

This data was obtained through discussions with district staff, the major developers within the district boundaries, the local cities planning departments, the planning department of Contra Costa County and various other agencies. A database map of the planned residential development was created, including, when available, project name, location, housing type, total number of units and estimated move-in dates (phasing schedule). Projected phasing is based upon occupancy of the unit and is used to help time the arrival of students from these new developments.

In the student population projection by residence DDP includes all approved and tentative tract maps in addition to any planned or proposed development that possibly will occur within the projection timeframe. The planned residential development information and phasing estimates is a snapshot of the District at the time of this study. All of the information may change and should be updated annually.

Tot	al S	SFD = 226 Total MFA = 1212 Total = 0 Total OTHER = 0																															
Stu	tu	10/2012	- 10/2013	1	0/2013 -	10/2014	10	0/2014 -	10/2015	10	2015 -	10/2016	10	/2016 -	10/2017	10	/2017 - 1	0/2018	107	2018 - 1	0/2019	10	/2019 - 1	0/2020	10	2020 - 1	0/2021	107	2021 - 10	12022			
Are	a S	FD MF.	A OTHER	SFD) MFA	OTHER	SFE	MEA	OTHER	SFD	MEA	OTHER	SFD	MEA	OTHER	SFD	MEA	OTHER	SFD	MEA	OTHER	SFD	MEA	OTHER	SFD	MEA	OTHER	SFD	MEA	OTHER	Elem_name	Int_name	High_name
1		0 0	0	0	0	0	0	0	0	0	0	0	0	23	0	0	23	0	0	23	0	0	23	0	0	23	0	0	23	0	Lupine Hills	Hercules MS	Hercules HS
2		0 0	0	0	0	0	0	0	0	0	0	0	0	25	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	Lupine Hills	Hercules MS	Hercules HS
5		0 0	0	0	0	0	0	0	0	0	0	0	0	23	0	0	23	0	0	23	0	0	23	0	0	23	0	0	23	0	Ohlone	Hercules MS	Hercules HS
6		0 0	0	0	0	0	0	72	0	0	75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Ohlone	Hercules MS	Hercules HS
7		0 0	0	0	0	0	0	0	0	0	0	0	0	23	0	0	23	0	0	78	0	0	78	0	0	83	0	0	23	0	Ohlone	Hercules MS	Hercules HS
11	7	0 0	0	0	0	0	0	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Verde	Helms MS	Richmond HS
22	4	0 0	0	0	0	0	0	0	0	0	44	0	0	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Grant	DeJean MS	Kennedy HS
32	4	0 0	0	0	0	0	40	0	0	45	0	0	45	0	0	55	0	0	41	0	0	0	0	0	0	0	0	0	0	0	King	DeJean MS	Kennedy HS
32	۹L	0 0	0	0	0	0	0	100	0	0	100	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Washington	Portola MS	Kennedy HS
То	al	0 0	0	0	0	0	40	214	0	45	219	0	45	239	0	55	94	0	41	124	0	0	124	0	0	129	0	0	69	0			
	Γ	Total 12 / 13			fotal 3 / 14		Т	otal 4 / 15		T (15	otal 716		T (16	otal 17		T (otal 1718		Тс 18	ital 719		T (19	otal 720		Т с 20	otal 721		Тс 21	otal 122				

5) Student Yield Factors – Ten-Year Projections - Closely related to the planned residential development units are Student Yield Factors. The Student Yield Factors, when applied to planned residential development units, determine how many additional students will be generated from new construction within the District.

Student Yield	Factors - District Wide*	<	
	K-6	7-8	9-12
<u>Type</u>	<u>Students</u>	<u>Students</u>	<u>Students</u>
SFD	0.210	0.056	0.147
SFA	0.047	0.015	0.014
MFA	0.333	0.154	0.185

SFD= Single Family Detached Units SFA= Single Family Attached Units MFA= Multifamily Attached Units

Table 4– Student Yield Factors

*Note: Student Yield Factors were calculated by Jack Schreder and Associates and given to DDP by the W.C.C.U.S.D staff

<u>3 - APPLYING THE VARIABLES TO GENERATE THE PROJECTIONS</u>

The following paragraphs summarize how DDP uses the factors to determine the student population projections. Remember that these projections are based on residence.

The West Contra Costa Unified School District has been broken up into 401 study areas and each study area is coded for the elementary, middle school and high school attendance area in which it fall. The residential projections are calculated at the study area level. This means that DDP conducts 401 individual projections that are based upon the number of students residing in each study area.

The first step in running these projections involves listing the number of students that live in a particular study area by each individual grade (kindergarten through 12th grade). The current student base (Fall 2010/11) is then passed to the next year's grade (2010/11's K become 20011/12's 1st graders, 2012/13's 1st graders become 20013/14's 2nd graders, and so on). After the natural progression of students through the grades is applied, then Birth Factors are multiplied by the current kindergarten class to generate a base for the following year's kindergarten class.

Next, a Mobility Factor is applied to all grades. Again, these factors take into account the natural in/out migration of students throughout the District.

The last essential layer applied to the projections deals with additional students from planned residential development. This is a simple calculation, again conducted at the study area level, where the estimated number of new housing units for a particular year is multiplied by the appropriate Student Yield Factors. For example, if 100 single family detached (SFD) units are to be built in a specific study area in a given year, then you would multiply this number (100) by the SFD K-6 student yield factor (.210) and the resulting number of students (21.0) is divided evenly among the seven grades.

To finish generating the projections by residence, the same process is conducted for each of the 401 study areas. Once the projections have been run at the study area level, then it is simple addition to determine projections for each of the District's attendance areas or for a district-wide summary. For example, the student population projections for Hercules High School are simply the summary of all of the study areas that make up this specific attendance area (see **Sections Four** for the projections of each school attendance area). The District Summary for the projections (Section Two) is a total summary of all 401 study areas, which excludes all of the students that attend a District school but live completely outside of the District's boundaries, special education students and independent study students. These out of district, special education students and independent study students are factored back into the projections by simply adding the existing totals in at the bottom of the projections. (Please see the Attendance Matrices in **Section Three** for a breakdown of the out-of-district, special education students and independent study students by school.) DDP adds the current total out-of-district and unmatched students, special education students and independent study students to each year of the projections because there is no way to accurately forecast the residence of these students in the future.