Executive Summary

The District Factor Groups (DFGs) were first developed in 1975 for the purpose of comparing students' performance on statewide assessments across demographically similar school districts. The categories are updated every ten years when the Census Bureau releases the latest Decennial Census data.

Since the DFGs were created, they have been used for purposes other than analyzing test score performance. In particular, the DFGs played a significant role in determining the initial group of districts that were classified as Abbott districts. Additionally, subsequent to the *Abbott IV* court ruling, the DFGs were also used to define the group of school districts on which Abbott v Burke parity remedy aid would be based.

The DFGs represent an approximate measure of a community's relative socioeconomic status (SES). The classification system provides a useful tool for examining student achievement and comparing similarly-situated school districts in other analyses. The DFGs do not have a primary or significant influence in the school funding formula beyond the legal requirements associated with parity aid provided to the Abbott districts.

In updating the DFGs using the data from the most recent Decennial Census, efforts were made to improve the methodology while preserving the underlying meaning of the DFG classification system. After discussing the measure with representatives from school districts and experimenting with various methods, the DFGs were calculated using the following six variables that are closely related to SES:

1) Percent of adults with no high school diploma
2) Percent of adults with some college education
3) Occupational status
4) Unemployment rate
5) Percent of individuals in poverty
6) Median family income.

Unlike the model used to create the DFGs based on the 1990 census data, this model has omitted population density as a relevant variable. The same statistical method (principal components analysis) was used to determine districts' relative SES. The method used to group the districts into DFG categories was also the same.

A number of methodological decisions were made to avoid classifying a school district in an inappropriate DFG category. First, communities in which there were fewer than 70 respondents to the Census questionnaire are omitted. Second, school districts in which more than half of the school-aged population is enrolled in non-public schools were not classified in a DFG. Both of these limitations are consistent with methods used in the previous DFG report. Third, school districts' DFG ratings are adjusted to account for students who are part of sending-receiving relationships and, as such, live in other communities. This is the first time that such a method has been used. Note that since students' characteristics are counted in the school district in which they attend school, non-operating school districts do not receive a DFG classification.

It has been suggested that the Decennial Census data may not accurately reflect the demographics of enrolled in a district's schools. Despite this concern, the census data are used for two reasons. First, experimentation with other data demonstrates that there are no viable alternatives to the census data. Second, considerable research suggests that community characteristics, not only an individual's characteristics, are relevant in terms of the impact of demographics on student performance.

Additionally, a small number of school districts have experienced exceptionally rapid enrollment growth in the past few years. It is possible that, despite having similar socioeconomic backgrounds, students who have lived in a particular community for a shorter period of time may not perform as well as their peers who have not recently been relocated. Some caution should be exercised when comparing student performance in such districts to others.

District Factor Group Listing

The following table lists the DFG classification for each school district based on the 2000 Decennial Census. For illustrative purposes, the 1990 DFG is included as well. Since some methodological changes were made, changes observed in the table should not be interpreted as the degree to which the community's SES changed over the past decade.

County	District	2000 DFG	1990 DFG
Atlantic	Absecon City	CD	DE
Atlantic	Atlantic City	A	A
Atlantic	Atlantic Co Vocational		
Atlantic	Brigantine City	CD	DE
Atlantic	Buena Regional	A	A
Atlantic	Corbin City		CD
Atlantic	Egg Harbor City	A	B
Atlantic	Egg Harbor Twp	CD	CD
Atlantic	Estell Manor City	DE	DE
Atlantic	Folsom Boro	CD	CD
Atlantic	Galloway Twp	CD	DE
Atlantic	Greater Egg Harbor Reg	CD	CD
Atlantic	Hamilton Twp	CD	DE
Atlantic	Hammonton Town	B	B
Atlantic	Linwood City	GH	GH
Atlantic	Longport		DE
Atlantic	Mainland Regional	DE	FG
Atlantic	Margate City	DE	FG
Atlantic	Mullica Twp	B	B
Atlantic	Northfield City	DE	FG
Atlantic	Pleasantville City	A	A
Atlantic	Port Republic City	FG	FG
Atlantic	Somers Point City	CD	CD
Atlantic	Ventnor City	B	CD
Atlantic	Weymouth Twp	B	CD
Bergen	Allendale Boro	I	I
Bergen	Alpine Boro	I	J
Bergen	Bergen County Vocational		
Bergen	Bergenfield Boro	FG	DE
Bergen	Bogota Boro	DE	DE
Bergen	Carlstadt Boro	DE	DE
Bergen	Carlstadt-East Rutherford	CD	CD
Bergen	Cliffside Park Boro	B	CD
Bergen	Closter Boro	I	I
Bergen	Cresskill Boro	I	I
Bergen	Demarest Boro	I	I
Bergen	Dumont Boro	FG	DE
Bergen	East Rutherford Boro	CD	CD
Bergen	Edgewater Boro	GH	FG
Bergen	Elmwood Park	CD	CD

County	District	2000 DFG	1990 DFG
Bergen	Emerson Boro	GH	GH
Bergen	Englewood City	DE	DE
Bergen	Englewood Cliffs Boro	I	I
Bergen	Fair Lawn Boro	GH	FG
Bergen	Fairview Boro	A	B
Bergen	Fort Lee Boro	FG	FG
Bergen	Franklin Lakes Boro	I	J
Bergen	Garfield City	B	B
Bergen	Glen Rock Boro	J	I
Bergen	Hackensack City	CD	CD
Bergen	Harrington Park Boro	I	I
Bergen	Hasbrouck Heights Boro	FG	DE
Bergen	Haworth Boro	I	I
Bergen	Hillsdale Boro	GH	GH
Bergen	Ho Ho Kus Boro	J	J
Bergen	Leonia Boro	GH	I
Bergen	Little Ferry Boro	CD	DE
Bergen	Lodi Borough	B	B
Bergen	Lyndhurst Twp	DE	CD
Bergen	Mahwah Twp	I	I
Bergen	Maywood Boro	FG	FG
Bergen	Midland Park Boro	GH	FG
Bergen	Montvale Boro	I	I
Bergen	Moonachie Boro	B	CD
Bergen	New Milford Boro	FG	FG
Bergen	North Arlington Boro	DE	DE
Bergen	Northern Highlands Reg	J	I
Bergen	Northern Valley Regional	I	I
Bergen	Northvale Boro	FG	GH
Bergen	Norwood Boro	I	I
Bergen	Oakland Boro	I	I
Bergen	Old Tappan Boro	I	I
Bergen	Oradell Boro	I	I
Bergen	Palisades Park	CD	CD
Bergen	Paramus Boro	GH	GH
Bergen	Park Ridge Boro	I	I
Bergen	Pascack Valley Regional	I	I
Bergen	Ramapo-Indian Hill Reg	I	I
Bergen	Ramsey Boro	I	I
Bergen	Ridgefield Boro	DE	DE
Bergen	Ridgefield Park Twp	DE	DE
Bergen	Ridgewood Village	J	I
Bergen	River Dell Regional	I	I
Bergen	River Edge Boro	I	GH
Bergen	River Vale Twp	I	I
Bergen	Rochelle Park Twp	FG	DE
Bergen	Rockleigh		
Bergen	Rutherford Boro	GH	FG

County	District	2000 DFG	1990 DFG
Bergen	Saddle Brook Twp	DE	DE
Bergen	Saddle River Boro	J	J
Bergen	South Hackensack Twp	CD	B
Bergen	Teaneck Twp	GH	GH
Bergen	Tenafly Boro	I	I
Bergen	Teterboro		
Bergen	Upper Saddle River Boro	J	J
Bergen	Waldwick Boro	GH	GH
Bergen	Wallington Boro	B	B
Bergen	Westwood Regional	GH	GH
Bergen	Wood Ridge Boro	FG	FG
Bergen	Woodcliff Lake Boro	J	J
Bergen	Wyckoff Twp	I	I
Burlington	Bass River Twp	CD	B
Burlington	Beverly City	B	B
Burlington	Bordentown Regional	FG	DE
Burlington	Burlington City	B	B
Burlington	Burlington Co Vocational		
Burlington	Burlington Twp	FG	DE
Burlington	Chesterfield Twp	GH	FG
Burlington	Cinnaminson Twp	FG	GH
Burlington	Delanco Twp	CD	DE
Burlington	Delran Twp	FG	FG
Burlington	Eastampton Twp	FG	FG
Burlington	Edgewater Park Twp	DE	FG
Burlington	Evesham Twp	I	I
Burlington	Florence Twp	DE	CD
Burlington	Hainesport Twp	FG	DE
Burlington	Lenape Regional	GH	GH
Burlington	Lumberton Twp	FG	FG
Burlington	Mansfield Twp	DE	FG
Burlington	Maple Shade Twp	CD	CD
Burlington	Medford Lakes Boro	I	I
Burlington	Medford Twp	I	I
Burlington	Moorestown Twp	I	I
Burlington	Mount Holly Twp	B	B
Burlington	Mount Laurel Twp	I	I
Burlington	New Hanover Twp	B	CD
Burlington	North Hanover Twp	CD	DE
Burlington	Northern Burlington Reg	DE	DE
Burlington	Palmyra Boro	DE	DE
Burlington	Pemberton Borough	CD	CD
Burlington	Pemberton Twp	B	CD
Burlington	Rancocas Valley Regional	DE	DE
Burlington	Riverside Twp	B	B
Burlington	Riverton	GH	GH
Burlington	Shamong Twp	GH	GH
Burlington	Southampton Twp	DE	CD

County	District	2000 DFG	1990 DFG
Burlington	Springfield Twp	FG	FG
Burlington	Tabernacle Twp	GH	GH
Burlington	Washington Twp	A	B
Burlington	Westampton	GH	GH
Burlington	Willingboro Twp	DE	DE
Burlington	Woodland Twp	DE	B
Camden	Audubon Boro	DE	DE
Camden	Audubon Park Boro		A
Camden	Barrington Boro	FG	DE
Camden	Bellmawr Boro	B	B
Camden	Berlin Boro	DE	DE
Camden	Berlin Twp	CD	CD
Camden	Black Horse Pike Regional	DE	DE
Camden	Brooklawn Boro	B	B
Camden	Camden City	A	A
Camden	Camden County Vocational		
Camden	Cherry Hill Twp	GH	I
Camden	Chesilhurst	A	A
Camden	Clementon Boro	B	B
Camden	Collingswood Boro	FG	DE
Camden	Eastern Camden County Reg	GH	GH
Camden	Gibbsboro Boro	FG	FG
Camden	Gloucester City	B	B
Camden	Gloucester Twp	DE	DE
Camden	Haddon Heights Boro	GH	GH
Camden	Haddon Twp	FG	FG
Camden	Haddonfield Boro	J	I
Camden	Hi Nella		B
Camden	Laurel Springs Boro	DE	CD
Camden	Lawnside Boro	B	B
Camden	Lindenwold Boro	B	CD
Camden	Magnolia Boro	CD	B
Camden	Merchantville Boro	DE	DE
Camden	Mount Ephraim Boro	CD	CD
Camden	Oaklyn Boro	CD	DE
Camden	Pennsauken Twp	CD	CD
Camden	Pine Hill Boro	B	B
Camden	Pine Valley		
Camden	Runnemede Boro	B	B
Camden	Somerdale Boro	CD	CD
Camden	Sterling High School Dist	DE	CD
Camden	Stratford Boro	DE	DE
Camden	Tavistock		
Camden	Voorhees Twp	I	I
Camden	Waterford Twp	DE	DE
Camden	Winslow Twp	CD	CD
Camden	Woodlynne Boro	B	B
Cape May	Avalon Boro	FG	FG

County	District	2000 DFG	1990 DFG
Cape May	Cape May City	CD	DE
Cape May	Cape May Co Vocational		
Cape May	Cape May Point		DE
Cape May	Dennis Twp	CD	DE
Cape May	Lower Cape May Regional	B	B
Cape May	Lower Twp	B	B
Cape May	Middle Twp	B	B
Cape May	North Wildwood City	A	A
Cape May	Ocean City	DE	DE
Cape May	Sea Isle City	B	CD
Cape May	Stone Harbor Boro	FG	GH
Cape May	Upper Twp	FG	FG
Cape May	West Cape May Boro	DE	CD
Cape May	West Wildwood		A
Cape May	Wildwood City	A	A
Cape May	Wildwood Crest Boro	B	B
Cape May	Woodbine Boro	A	A
Cumberland	Bridgeton City	A	A
Cumberland	Commercial Twp	A	A
Cumberland	Cumberland Co Vocational		
Cumberland	Cumberland Regional	B	B
Cumberland	Deerfield Twp	B	B
Cumberland	Downe Twp	A	A
Cumberland	Fairfield Twp	A	A
Cumberland	Greenwich Twp	CD	CD
Cumberland	Hopewell Twp	CD	CD
Cumberland	Lawrence Twp	A	A
Cumberland	Maurice River Twp	B	B
Cumberland	Millville City	A	B
Cumberland	Shiloh Boro	B	B
Cumberland	Stow Creek Twp	CD	DE
Cumberland	Upper Deerfield Twp	B	B
Cumberland	Vineland City	A	B
Essex	Belleville Town	CD	CD
Essex	Bloomfield Twp	DE	DE
Essex	Caldwell-West Caldwell	I	I
Essex	Cedar Grove Twp	I	GH
Essex	East Orange	A	A
Essex	Essex Co Voc-Tech		
Essex	Essex Fells Boro	J	J
Essex	Fairfield Twp	GH	GH
Essex	Glen Ridge Boro	I	I
Essex	Irvington Township	A	A
Essex	Livingston Twp	I	I
Essex	Millburn Twp	J	J
Essex	Montclair Town	I	GH
Essex	Newark City	A	A
Essex	North Caldwell Boro	J	J

County	District	2000 DFG	1990 DFG
Essex	Nutley Town	FG	DE
Essex	City Of Orange Twp	A	A
Essex	Roseland Boro	I	I
Essex	South Orange-Maplewood	I	I
Essex	Verona Boro	I	I
Essex	West Essex Regional	I	I
Essex	West Orange Town	GH	GH
Gloucester	Clayton Boro	CD	B
Gloucester	Clearview Regional	FG	FG
Gloucester	Deptford Twp	CD	CD
Gloucester	East Greenwich Twp	FG	FG
Gloucester	Elk Twp	B	B
Gloucester	Franklin Twp	CD	CD
Gloucester	Gateway Regional	CD	CD
Gloucester	Glassboro	B	B
Gloucester	Gloucester Co Vocational		
Gloucester	Greenwich Twp	DE	DE
Gloucester	Harrison Twp	GH	FG
Gloucester	Kingsway Regional	FG	DE
Gloucester	Logan Twp	FG	FG
Gloucester	Mantua Twp	FG	DE
Gloucester	Monroe Twp	CD	CD
Gloucester	National Park Boro	B	B
Gloucester	Newfield Boro		CD
Gloucester	Paulsboro Boro	A	A
Gloucester	Pitman Boro	FG	DE
Gloucester	South Harrison Twp	FG	DE
Gloucester	Delsea Regional H.S Dist.	CD	CD
Gloucester	Swedesboro-Woolwich	DE	B
Gloucester	Washington Twp	FG	GH
Gloucester	Wenonah Boro	I	I
Gloucester	West Deptford Twp	DE	DE
Gloucester	Westville Boro	B	B
Gloucester	Woodbury City	B	B
Gloucester	Woodbury Heights Boro	FG	FG
Hudson	Bayonne City	CD	B
Hudson	East Newark Boro	A	A
Hudson	Guttenberg Town	B	B
Hudson	Harrison Town	B	A
Hudson	Hoboken City	FG	B
Hudson	Hudson County Vocational		
Hudson	Jersey City	B	A
Hudson	Kearny Town	B	B
Hudson	North Bergen Twp	B	B
Hudson	Secaucus Town	DE	FG
Hudson	Union City	A	A
Hudson	Weehawken Twp	CD	B
Hudson	West New York Town	A	A

County	District	2000 DFG	1990 DFG
Hunterdon	Alexandria Twp	GH	GH
Hunterdon	Bethlehem Twp	I	I
Hunterdon	Bloomsbury Boro	GH	DE
Hunterdon	Califon Boro	I	I
Hunterdon	Clinton Town	I	I
Hunterdon	Clinton Twp	I	I
Hunterdon	Delaware Twp	GH	GH
Hunterdon	Delaware Valley Regional	GH	FG
Hunterdon	East Amwell Twp	I	I
Hunterdon	Flemington-Raritan Reg	I	GH
Hunterdon	Franklin Twp	I	GH
Hunterdon	Frenchtown Boro	FG	DE
Hunterdon	Glen Gardner Boro		GH
Hunterdon	Hampton Boro	DE	DE
Hunterdon	High Bridge Boro	GH	GH
Hunterdon	Holland Twp	FG	FG
Hunterdon	Hunterdon Central Reg	I	I
Hunterdon	Hunterdon Co Vocational		
Hunterdon	Kingwood Twp	FG	FG
Hunterdon	Lambertville City	GH	FG
Hunterdon	Lebanon Boro	I	GH
Hunterdon	Lebanon Twp	I	GH
Hunterdon	Milford Boro	FG	DE
Hunterdon	N Hunt/Voorhees Regional	I	I
Hunterdon	Readington Twp	I	I
Hunterdon	South Hunterdon Regional	GH	FG
Hunterdon	Stockton Boro	FG	FG
Hunterdon	Tewksbury Twp	J	J
Hunterdon	Union Twp	GH	GH
Hunterdon	West Amwell Twp	GH	FG
Mercer	East Windsor Regional	GH	GH
Mercer	Ewing Twp	DE	FG
Mercer	Hamilton Twp	FG	FG
Mercer	Hopewell Valley Regional	I	I
Mercer	Lawrence Twp	GH	I
Mercer	Mercer County Vocational		
Mercer	Princeton Regional	I	I
Mercer	Trenton City	A	A
Mercer	Washington Twp	I	GH
Mercer	W Windsor-Plainsboro Reg	J	I
Middlesex	Carteret Boro	B	B
Middlesex	Cranbury Twp	J	I
Middlesex	Dunellen Boro	FG	DE
Middlesex	East Brunswick Twp	I	I
Middlesex	Edison Twp	GH	FG
Middlesex	Helmetta Boro		DE
Middlesex	Highland Park Boro	GH	GH
Middlesex	Jamesburg Boro	DE	DE

County	District	2000 DFG	1990 DFG
Middlesex	Metuchen Boro	I	GH
Middlesex	Middlesex Boro	FG	FG
Middlesex	Middlesex Co Vocational		
Middlesex	Milltown Boro	FG	FG
Middlesex	Monroe Twp	FG	FG
Middlesex	New Brunswick City	A	A
Middlesex	North Brunswick Twp	FG	GH
Middlesex	Old Bridge Twp	FG	FG
Middlesex	Perth Amboy City	A	A
Middlesex	Piscataway Twp	GH	FG
Middlesex	Sayreville Boro	DE	DE
Middlesex	South Amboy City	CD	CD
Middlesex	South Brunswick Twp	I	I
Middlesex	South Plainfield Boro	FG	FG
Middlesex	South River Boro	CD	B
Middlesex	Spotswood Boro	DE	CD
Middlesex	Woodbridge Twp	DE	DE
Monmouth	Allenhurst		
Monmouth	Asbury Park City	A	A
Monmouth	Atlantic Highlands Boro	GH	FG
Monmouth	Avon Boro	I	GH
Monmouth	Belmar Boro	DE	DE
Monmouth	Bradley Beach Boro	CD	B
Monmouth	Brielle Boro	GH	GH
Monmouth	Colts Neck Twp	I	I
Monmouth	Deal Boro		GH
Monmouth	Eatontown Boro	FG	FG
Monmouth	Fair Haven Boro	I	I
Monmouth	Farmingdale Boro	DE	DE
Monmouth	Freehold Boro	B	CD
Monmouth	Freehold Regional	GH	GH
Monmouth	Freehold Twp	GH	GH
Monmouth	Hazlet Twp	DE	DE
Monmouth	Henry Hudson Regional	DE	DE
Monmouth	Highlands Boro	CD	CD
Monmouth	Holmdel Twp	I	I
Monmouth	Howell Twp	FG	FG
Monmouth	Interlaken		
Monmouth	Keansburg Boro	A	A
Monmouth	Keyport Boro	CD	CD
Monmouth	Little Silver Boro	J	I
Monmouth	Long Branch City	B	B
Monmouth	Manalapan-Englishtown Reg	GH	GH
Monmouth	Manasquan Boro	GH	FG
Monmouth	Marlboro Twp	I	I
Monmouth	Matawan-Aberdeen Regional	FG	FG
Monmouth	Middletown Twp	GH	GH
Monmouth	Millstone Twp	I	GH

County	District	2000 DFG	1990 DFG
Monmouth	Monmouth Beach Boro	I	I
Monmouth	Monmouth Co Vocational		
Monmouth	Monmouth Regional	GH	GH
Monmouth	Neptune City	CD	CD
Monmouth	Neptune Twp	CD	CD
Monmouth	Ocean Twp	FG	GH
Monmouth	Oceanport Boro	GH	GH
Monmouth	Red Bank Boro	CD	CD
Monmouth	Red Bank Regional	FG	FG
Monmouth	Roosevelt Boro	GH	I
Monmouth	Rumson Boro	J	I
Monmouth	Rumson-Fair Haven Reg	J	I
Monmouth	Sea Bright Boro		GH
Monmouth	Sea Girt Boro	I	I
Monmouth	Shore Regional	GH	GH
Monmouth	Shrewsbury Boro	I	I
Monmouth	South Belmar		CD
Monmouth	Spring Lake Boro	I	I
Monmouth	Spring Lake Heights Boro	FG	FG
Monmouth	Tinton Falls	GH	GH
Monmouth	Union Beach	CD	B
Monmouth	Upper Freehold Regional	GH	FG
Monmouth	Wall Twp	GH	FG
Monmouth	West Long Branch Boro	FG	GH
Morris	Boonton Town	FG	FG
Morris	Boonton Twp	I	I
Morris	Butler Boro	DE	FG
Morris	Sch Dist Of The Chathams	J	I
Morris	Chester Twp	J	I
Morris	Denville Twp	I	I
Morris	Dover Town	A	B
Morris	East Hanover Twp	GH	GH
Morris	Florham Park Boro	I	I
Morris	Hanover Park Regional	GH	I
Morris	Hanover Twp	I	GH
Morris	Harding Township	J	J
Morris	Jefferson Twp	GH	GH
Morris	Kinnelon Boro	I	I
Morris	Lincoln Park Boro	FG	GH
Morris	Madison Boro	I	I
Morris	Mendham Boro	J	I
Morris	Mendham Twp	J	J
Morris	Mine Hill Twp	FG	FG
Morris	Montville Twp	I	I
Morris	Morris County Vocational		
Morris	Morris Hills Regional	GH	GH
Morris	Morris Plains Boro	I	I
Morris	Morris School District	GH	GH

County	District	2000 DFG	1990 DFG
Morris	Mount Arlington Boro	GH	FG
Morris	Mount Olive Twp	GH	GH
Morris	Mountain Lakes Boro	J	J
Morris	Netcong Boro	DE	DE
Morris	Parsippany-Troy Hills Twp	GH	GH
Morris	Long Hill Twp	I	I
Morris	Pequannock Twp	GH	GH
Morris	Randolph Twp	I	I
Morris	Riverdale Boro	FG	FG
Morris	Rockaway Boro	FG	FG
Morris	Rockaway Twp	I	I
Morris	Roxbury Twp	GH	GH
Morris	Victory Gardens		B
Morris	Washington Twp	I	I
Morris	West Morris Regional	I	I
Morris	Wharton Boro	DE	FG
Ocean	Barnegat Twp	CD	CD
Ocean	Bay Head Boro	I	I
Ocean	Beach Haven Boro	FG	DE
Ocean	Berkeley Twp	B	B
Ocean	Brick Twp	DE	DE
Ocean	Central Regional	B	B
Ocean	Eagleswood Twp	B	B
Ocean	Island Heights Boro	GH	FG
Ocean	Jackson Twp	DE	DE
Ocean	Lacey Twp	DE	CD
Ocean	Lakehurst Boro	B	B
Ocean	Lakewood Twp		B
Ocean	Lavallette Boro	DE	DE
Ocean	Little Egg Harbor Twp	B	B
Ocean	Long Beach Island	FG	FG
Ocean	Manchester Twp	B	B
Ocean	Mantoloking		I
Ocean	Ocean County Vocational		
Ocean	Ocean Gate Boro	B	B
Ocean	Ocean Twp	CD	B
Ocean	Pinelands Regional	B	B
Ocean	Plumsted Twp	DE	CD
Ocean	Point Pleasant Boro	FG	DE
Ocean	Point Pleasant Beach Boro	FG	DE
Ocean	Seaside Heights Boro	A	A
Ocean	Seaside Park Boro	DE	DE
Ocean	Southern Regional	DE	CD
Ocean	Stafford Twp	DE	B
Ocean	Toms River Regional	DE	DE
Ocean	Tuckerton Boro	CD	B
Passaic	Bloomingdale Boro	FG	FG
Passaic	Clifton City	CD	DE

County	District	2000 DFG	1990 DFG
Passaic	Haledon Boro	B	B
Passaic	Hawthorne Boro	DE	DE
Passaic	Lakeland Regional	FG	FG
Passaic	Little Falls Twp	FG	FG
Passaic	North Haledon Boro	FG	DE
Passaic	Passaic City	A	A
Passaic	Passaic Co Manchester Reg	B	CD
Passaic	Passaic Valley Regional	DE	DE
Passaic	Passaic County Vocational		
Passaic	Paterson City	A	A
Passaic	Pompton Lakes Boro	FG	FG
Passaic	Prospect Park Boro	B	B
Passaic	Ringwood Boro	GH	GH
Passaic	Totowa Boro	CD	DE
Passaic	Wanaque Boro	DE	CD
Passaic	Wayne Twp	GH	GH
Passaic	West Milford Twp	FG	FG
Passaic	West Paterson Boro	DE	DE
Salem	Alloway Twp	DE	DE
Salem	Elmer Boro	CD	CD
Salem	Elsinboro Twp	DE	DE
Salem	Lower Alloways Creek	CD	B
Salem	Mannington Twp	CD	B
Salem	Oldmans Twp	CD	CD
Salem	Penns Grv-Carney'S Pt Reg	A	B
Salem	Pennsville	CD	CD
Salem	Pittsgrove Twp	CD	CD
Salem	Quinton Twp	A	B
Salem	Salem City	A	A
Salem	Salem County Vocational		
Salem	Upper Pittsgrove Twp	CD	DE
Salem	Woodstown-Pilesgrove Reg	FG	FG
Somerset	Bedminster Twp	I	J
Somerset	Bernards Twp	J	I
Somerset	Bound Brook Boro	B	CD
Somerset	Branchburg Twp	I	I
Somerset	Bridgewater-Raritan Reg	I	GH
Somerset	Franklin Twp	GH	GH
Somerset	Green Brook Twp	GH	GH
Somerset	Hillsborough Twp	I	I
Somerset	Manville Boro	CD	CD
Somerset	Millstone		FG
Somerset	Montgomery Twp	J	J
Somerset	North Plainfield Boro	DE	FG
Somerset	Rocky Hill		I
Somerset	Somerset Co Vocational		
Somerset	Somerset Hills Regional	I	I
Somerset	Somerville Boro	FG	DE

County	District	2000 DFG	1990 DFG
Somerset	South Bound Brook	B	CD
Somerset	Warren Twp	I	I
Somerset	Watchung Boro	I	I
Somerset	Watchung Hills Regional	I	I
Sussex	Andover Reg	FG	FG
Sussex	Branchville Boro		DE
Sussex	Byram Twp	I	I
Sussex	Frankford Twp	FG	FG
Sussex	Franklin Boro	CD	CD
Sussex	Fredon Twp	GH	GH
Sussex	Green Twp	I	I
Sussex	Hamburg Boro	DE	DE
Sussex	Hampton Twp	GH	GH
Sussex	Hardyston Twp	FG	FG
Sussex	High Point Regional	DE	DE
Sussex	Hopatcong	FG	FG
Sussex	Kittatinny Regional	FG	FG
Sussex	Lafayette Twp	GH	FG
Sussex	Lenape Valley Regional	GH	GH
Sussex	Montague Twp	B	DE
Sussex	Newton Town	CD	CD
Sussex	Ogdensburg Boro	FG	FG
Sussex	Sandyston-Walpack Twp	FG	DE
Sussex	Sparta Twp	I	I
Sussex	Stanhope Boro	GH	GH
Sussex	Stillwater Twp	FG	DE
Sussex	Sussex-Wantage Regional	DE	CD
Sussex	Sussex County Vocational		
Sussex	Vernon Twp	FG	FG
Sussex	Wallkill Valley Regional	DE	DE
Union	Berkeley Heights Twp	I	I
Union	Clark Twp	FG	FG
Union	Cranford Twp	I	GH
Union	Elizabeth City	A	A
Union	Garwood Boro	DE	CD
Union	Hillside Twp	CD	CD
Union	Kenilworth Boro	DE	CD
Union	Linden City	B	B
Union	Mountainside Boro	I	I
Union	New Providence Boro	I	I
Union	Plainfield City	B	B
Union	Rahway City	CD	CD
Union	Roselle Boro	B	CD
Union	Roselle Park Boro	DE	DE
Union	Scotch Plains-Fanwood Reg	I	I
Union	Springfield Twp	GH	GH
Union	Summit City	I	I
Union	Union County Vocational		

County	District	2000 DFG	1990 DFG
Union	Union Twp	DE	DE
Union	Westfield Town	I	I
Union	Winfield Twp	B	B
Warren	Allamuchy Twp	I	GH
Warren	Alpha Boro	B	CD
Warren	Belvidere Town	DE	DE
Warren	Blairstown Twp	FG	FG
Warren	Franklin Twp	DE	DE
Warren	Frelinghuysen Twp	GH	FG
Warren	Great Meadows Regional	GH	FG
Warren	Greenwich Twp	I	FG
Warren	Hackettstown	DE	DE
Warren	Hardwick Twp		FG
Warren	Harmony Twp	DE	DE
Warren	Hope Twp	FG	FG
Warren	Knowlton Twp	FG	DE
Warren	Lopatcong Twp	DE	DE
Warren	Mansfield Twp	FG	DE
Warren	North Warren Regional	FG	FG
Warren	Oxford Twp	DE	CD
Warren	Phillipsburg Town	B	B
Warren	Pohatcong Twp	DE	DE
Warren	Warren County Vocational		
Warren	Warren Hills Regional	FG	DE
Warren	Washington Boro	DE	CD
Warren	Washington Twp	GH	GH
Warren	White Twp	DE	CD

I: District Factor Groups: Background and Utilization

The District Factor Groups (DFGs) provide a systematic approach for classifying New Jersey school districts based on the socioeconomic status (SES) observed within the communities served by the district. The department first developed the DFGs in 1975 utilizing data from the 1970 Decennial Census. Since then, the department has updated the DFGs two times to 1) incorporate current data from the Census Bureau and 2) make improvements to the methodology employed. This report represents the fourth version of the DFGs.

Since the department created the DFGs, they have been used in a variety of manners. Three uses are particularly noteworthy: 1) analysis of student performance on statewide assessment examinations, 2) Abbott district classification, and, to a lesser degree 3) the provision of state education aid.

A. Test Score Analysis

The 1975 DFG report summarized research indicating that student performance is affected not only by the quality of the educational services received in the school building, but also by students' background characteristics, particularly those relating to their parents. As New Jersey and other states began to implement statewide testing, various entities found it useful to compare student performance levels across districts.

Such test score comparisons were typically based on factors, such as geography, that failed to account for the differences in student demographics across districts. Since districts are not able to control the demographics of the students they serve, efforts needed to be made to allow for comparisons of districts that are more similar on characteristics that may impact student performance. To that end, the DFGs were developed to group districts that serve students with similar demographics backgrounds.

B. Abbott District Classification

While the DFGs were initially developed to identify districts based on their SES, the measure began to take on an expanded role when it was used during the Abbott v Burke court cases. In determining that the then existing school funding law did not provide adequate funding to "poorer, urban districts," criteria were developed to determine which districts would be classified as special needs districts. In developing the methodology for assigning this status to school districts, it was determined that (among other requirements) the district had to be classified in one of the two lowest DFG categories. This determination was made based on the DFGs developed using the 1980 Decennial Census.

The current list of Abbott districts is based on the DFG classification derived from community characteristics that existed in 1979. N. J. S. A. 18A:7G-4k required that the Commissioner provide the state legislature with criteria to be used in the designation of Abbott districts. These recommendations were presented to the legislature in an April 11, 2003 report. The DFGs were again included as part of the recommended criteria.

C. State Education Aid

Overall, the DFGs play little role in the allocation of state education aid to school districts. State aid, as calculated in the Comprehensive Education Improvement and Financing Act (CEIFA), is determined based on wealth measures (equalized property valuation and income) and student needs (e. g., the percent of students who are low-income or the number of special education students). The CEIFA law makes little use of DFGs as either a measure of a community's capacity to raise revenue or as a means to determine overall resource needs. As such, a change in a district's DFG classification would not result in a dramatic change in state education aid to most school districts.

There is one area, however, in which the DFG classifications have a more substantive impact on state aid. In a later ruling (Abbott IV), the court required that, as a form of interim relief to the Abbott districts, the state provide enough aid to these districts such that they are able to spend as much as the wealthiest districts to provide regular education services. The term "wealthiest districts" was defined to include districts classified as DFG I and J. This provided the benchmark for regular education funding for the Abbott districts.

II: History of DFG Calculation

There are two key reasons the DFGs are updated with the release of new Census data. First, it is important to use the most current data available to ensure that demographic changes that may have occurred across communities are adequately reflected in the measure. Second, the updates provide an opportunity to modify the methodology used to determine the DFGs in order to ensure that the classification is as accurate as possible. To more fully understand the process employed in this update, it is useful to explore how the DFG calculation has changed over the three previous versions. This is discussed in terms of 1) the data sources used, 2) the variables that have been included in the measure, 3) the statistical techniques applied to measure districts' SES, and 4) the method used to group districts into their DFG classification.

A. Data Sources

The three previous iterations of the DFG utilized data from the most recent Decennial Census. The consistent decision to rely on this data is due to the fact that it is the only data source available that provides statistically reliable data at the municipal level on a broad range of characteristics commonly used to measure SES. Since New Jersey school districts overlap with municipalities (or a cluster of municipalities), aggregating the census data to the school district level is a straightforward process.

B. Variables

Table 1 is an adaptation of a table included in the 1990 DFG report and offers a brief summary of which variables have been used to determine the SES measures for each district and how they have changed over time. While the table provides a concise depiction of the changes, a more detailed discussion of each variable is in order.

Table 1
Summary of DFG Models over Time

1970	1980	1990
Education	Education	% w/ No HS Diploma
		% w/ Some College
Occupational Status	Occupational Status	Occupational Status
Percent Urban	Percent Urban	Population Density
Income	Income *	Income
Unemployment	Unemployment *	Unemployment **
Poverty	Poverty *	Poverty
Household Density	Household Density	
Residential Mobility		

* Measured differently than in the 1970 model.
** Measured differently than in the 1980 model.

This table is adapted from the 1990 DFG report.

1) Educational Attainment: Educational attainment is one of the most commonly used measures of SES and has been utilized in each DFG calculation. The first two calculations determined a community's education index by assigning a score of 1 to 10 to each education attainment group reported in the census data (e. g, 1 for people with no education, 2 for people with 1 through 4 years, etc).[1] The weighted average was calculated based on the number of people in the community in each category. The 1990 report noted that this methodology makes implicit assumptions regarding how much better additional years of education are without empirical support for these assumptions (for example, the method implies that having one to four years of education is twice as good as having no formal education). To resolve this concern, the 1990 analysis used two variables to measure educational attainment: the percent of adults without a high school diploma and the percent of adults with some level of college education. This avoided the assumptions made by the previous analyses and was grounded in research literature on the benefits of obtaining specific levels of education.

2) Occupational Status: The type of work a person performs is also regarded as a strong measure of SES. To that end, all three DFG models included an occupational status score. The census data includes the number of people who are employed in broad occupational categories. Survey results published by A. J. Reiss provided measures of the level of prestige the general public associates with occupations in these categories. These scores were used to rank the occupation groups on a scale of 1 (least prestigious) to 12 (most prestigious) and a community prestige score was calculated based on the percent of residents who held jobs in each category. This methodology is very similar to the education measure produced in the first two iterations and has similar shortcomings. While this was noted in the 1990 DFG report, experimentation with alternative measures failed to produce better results. To that end, all three DFG reports measured occupational status in the same manner.

[1] The 1980 DFG analysis compressed the rankings to five groups.

3) Urbanization / Population Density: The percent of residents who lived in a non-rural census tract was included in the first two versions of the DFGs. The third report noted that in New Jersey, this was essentially a dichotomous variable – either everyone in a school district lived in an urban census tract (100 percent) or none did (0 percent). This stark difference failed to capture degrees of variation that may exist across districts. The most recent report dropped the urbanization variable and added population density. This was an attempt to measure the same concept in a more refined manner to capture nuanced differences among the districts that would not be captured in the dichotomous variable.

4) Income: All of the previous versions of the DFGs included an income measure. The first iteration used average family income. In the 1980 DFGs, this was switched to *median* family income, as the average may be skewed by a small number of outlying observations. This same measure was used in 1990.

5) Unemployment: The first DFG report included the traditional unemployment rate (the percent of people in the labor force who were not working). The second analysis changed the measure to capture the percent of workers who received unemployment compensation at some point in the previous year. The most recent DFG analysis noted that some unemployed individuals do not actually receive unemployment compensation. As such, that report reverted back to the traditional unemployment rate.

6) Poverty: The 1970 DFG included the percent of families in which income is less than the federal poverty level. This measure does not include individuals who do not live with any relatives. The 1980 and 1990 analyses used the more inclusive person level poverty rate.

7) Household Density: The first two DFG reports included the average number of persons living in a household. When the 1990 DFGs were developed, exploratory analysis suggested that this variable was no longer a useful indicator of SES. Therefore, it was dropped.

8) Residential Mobility: The 1970 report included the percent of residents who have lived in the same home for the previous ten years as a measure of residential mobility. The 1980 report noted that over time, this has become a less reliable indicator for SES as people became increasingly likely to relocate to pursue better career opportunities. This variable has not been utilized since the 1970 DFG report.

C. Statistical Methodology

Given that a set of variables related to SES has been selected, the next step is to employ some methodology to actually measure the community's SES level. The three previous DFG analyses all utilized a statistical method known as principal components analysis (PCA). While a detailed explanation of this procedure is beyond the scope of this report, a general description will provide better insight into how the DFGs are determined.

PCA is a technique designed to express the information contained in a group of highly correlated variables in a smaller number of variables. For example, assume a situation in which an analyst has collected height and weight data for a population. PCA could be used to

calculate a new variable (called a principal component) that captures the same information, but with the use of only one variable instead of two. One could view this combination of the height and weight data as a more generic size measure.

This description is very simplified. In fact, the PCA process will not produce just one principal component. Rather, it will create as many principal components as there are variables in the original analysis. One would not use all of the principal components, however, because that would be inconsistent with the objective of reducing the number of variables included in the analysis. Prior DFG reports relied on the first principal component as a measure of relative SES. This is a reasonable approach if the variables included in the analysis impact the first principal component in a manner consistent with expectations (for example, if the results show higher income decreases the first principal component, it is likely that the first principal component is not measuring SES).

D. Grouping Methodology

Once the PCA analysis has been implemented and the first principal component has defined a numeric measure of relative SES, the districts must be grouped into the DFG classes. The first two DFG reports utilized a simple method. The districts were grouped into deciles (ten groups containing an approximately equal number of districts) based on their SES score (the first principal component discussed above). The districts in the bottom decile were classified as DFG A while districts in the highest decile were classified as DFG J.

The 1990 report noted that this grouping method, while straightforward, was flawed. The process of classifying districts into equally sized deciles did not account for the *magnitude* of the difference in the SES scores across districts. This represented a particular problem in the middle of the distribution, where a large number of districts had similar SES scores. One result of this problem was that in some cases, average test scores were higher in lower DFGs. The 1990 analysis classified districts based on the range of SES scores. These groupings became the eight DFG categories currently used. Given the expanded use of the DFG classification, particularly the lowest and highest categories, efforts were made to preserve the underlying meaning of these groups.

III: Development of the 2000 District Factor Groups

In determining the DFGs using the 2000 Decennial Census data, the overarching goal was to continue refining the methodology in ways that will make the calculation more accurate while simultaneously preserving the basic meaning of the DFG classifications (particularly the two lowest and two highest categories).

To this end, the department began the process by obtaining feedback from districts regarding modifications that may be required. Through various means of communication, the department received a significant number of comments. The most common concerns can be classified into one of four categories:

1) ***Variables Included in DFG Determination:*** The most common suggestion was that the department review the variables included when determining the DFGs. Concerns were raised that some variables have not been included in the model that may, nonetheless, have an impact on student performance.
2) ***Accounting for Sending-Receiving Relationships:*** A second concern related to the fact that many school districts educate students from other communities. As designed, the DFGs have always used the demographics of the community in which the district is located to measure SES. In the event a district receives a large share of its students from another with substantially different demographics, then the receiving district may be classified in a lower or higher DFG class than is appropriate.
3) ***Accuracy of Census Data:*** The census data used in the past captures characteristics of the municipality in which the school district is located. It has been suggested there are cases in which the students served in a school district have substantially different demographics from the broader community. This may occur when more privileged households within the community either do not have school-aged children or enroll their children in private schools.
4) ***Application of DFGs to County Vocational Districts:*** In the past, county vocational districts were not included in the DFG classification. Representatives from some of the county vocational districts suggested that this be changed by assigning these districts a DFG based on a weighted average of the SES score for the districts of origin for the county vocational students.

It should be noted that questions were not raised regarding the statistical technique used to determine the SES scores and the method for grouping districts into DFG classes. Given the previous and future uses of the DFGs, one key objective is to preserve the underlying meaning of the groupings, particularly at the low and high ends. In the absence of any compelling reason to modify these methods, the decision was made to continue the same quantitative analysis technique and grouping method used in the development of the 1990 DFGs.

The four subject areas raised during various discussions were explored at length in developing the DFGs. The process is discussed and the final decisions made are explained here.

A. Variables to be Included

In reviewing the previous DFG analyses and discussing the measure with representatives from school districts, a number of questions were raised with regards to variables that may improve the DFG calculation. The previous inclusion of one variable, population density, was called into question. A number of observers suggested the inclusion of five other concepts: 1) the degree to which individuals do not speak English, 2) the share of children raised by single mothers, 3) in addition to poverty status, a measure of severity of individuals' poverty, 4) a measure of student disabilities, and 5) student mobility rates.

When determining whether such variables should be added to the model, several factors were considered:

1) ***Data Availability:*** For reasons that are apparent, variables to be used in this analysis must be available at either the school district or municipal level.
2) ***Empirical Results:*** After experimenting with various models, variables that do a poor job of defining SES should be dropped from the final analysis.
3) ***District Level Control:*** The key purpose of the DFGs is to classify school districts into groups based on characteristics beyond their control. To that end, variables that are affected by districts' policies and practices should be omitted.
4) ***Appearance in Research Literature:*** Variables included in the DFG analysis should also appear in other literature that utilizes measures of SES.

In updating the DFGs, six changes in the model specification were tested with the above four considerations in mind. The empirical analysis is straightforward. A series of PCA analyses were run to test each model's ability to explain the variation in the group of variables; the model that explained the largest share of variance was deemed the optimal model. The first model was a baseline version that included the same seven variables as the 1990 DFGs. Each additional option made one change to allow a clear comparison to the baseline version. Each variable used is discussed below. Table 2 summarizes the results of the PCA models.

1) Population Density: While population density appears to be a better alternative to the percent urban variable used in prior analyses, it is not clear that this concept represents a good measure of SES. A review of literature on SES does not reveal frequent use of this measure. Furthermore, a table in the 1990 DFG report suggests that this variable was substantially weaker than the other six in terms of explaining SES. As seen in Table 2, dropping population density has a substantial positive impact on the model's ability to account for SES. The share of explained variance increases by nearly 10 percentage points (or 14 percent).

2) English Proficiency: Several observers suggested that the prevalence of students with limited English proficiency (LEP) may impact test scores. However, the percent of students classified as LEP is not an appropriate measure for this analysis as it is at least partly determined by district policy and practice. The census data provides two variables that could be used to measure this phenomenon: 1) the percent of people between the ages of 5 and 17 who do not speak English well and 2) the percent of households that are "linguistically isolated" (households in which no one over the age of 14 speaks English well). It should be noted that some analysis was done with the first variable when the 1990 DFGs were developed. However, the report concluded that this was not a reasonable measure of SES. The empirical analysis here corroborates those results. Including the percent of individuals who do not speak English well decreases the explained variance by 6.5 percentage points (9.3 percent). Including linguistic isolation yields a similarly sized decrease (5.8 percentage points, or 8.3 percent).

3) Single Mother Families: A considerable amount of research has included family structure as a measure of SES. While it appears that further analysis is warranted, it should be noted that the 1990 DFG analysis explored using this variable as an alternative to the poverty measure. It was determined that poverty was a more appropriate variable. In this analysis, the percent of families with children is explored as a supplement to the other variables. However, the results show a slight decrease in the percent of variable explained (1.3 percentage points) when this variable is included.

4) Income Deficit: The DFG models have always included a measure of the percent of families or individuals living below the federal poverty line. As noted in the 1990 report, this does not provide information on *how poor* these individuals are. The income deficit measures the difference between a poor family's actual income and the income needed to get up to the poverty line. While the inclusion of this variable seems intuitive, it caused a small decrease in the percent of variance explained (0.9 percentage point or 1.3 percent).

5) Disability Status: A number of district representatives recommended including the special education classification rate in DFG analysis model. This idea raises two concerns. First, similar to the percent of students classified as LEP, it is a measure that partly depends on district level decisions. Second, there appears to be nothing in the research literature on this topic that link disability status to SES. To explore this linkage, census data are used to estimate the percent of people between the ages of 5 and 20 who have some disability (this measure has the benefit of not being affected by district level decision-making). As seen in Table 2, including this variable decreases the model's explanatory power. The explained variance decreases 4.2 percentage points (or 6.0 percent).

6) Student Mobility: Student mobility is commonly associated with lower student performance, although this characteristic is not generally associated with SES (recall that residential mobility was removed from the DFG analysis). The census data do not include variables that may be used as a proxy for student mobility. As an alternative, data from the School Report Card were aggregated to the school district level to estimate the mobility rate. The inclusion of this variable decreased the model's explanatory power by 2.2 percentage points (or 3.1 percent).

Given the above discussion, it appears that the best model should include six variables: percent of adults with no high school diploma, percent of adults with some college education, occupational status, median family income, poverty rate, and unemployment rate.

Table 2
Comparison of Alternative Principal Component Analysis Models

Model Description	Explained Variance	Difference Relative to Baseline	Percent Difference Relative to Baseline
Original Model	69.9%	N/A	N/A
Omit Population Density	79.5%	9.7	13.9
Include % Do not Speak English Well	63.4%	-6.5	-9.3
Include Linguistic Isolation	64.1%	-5.8	-8.3
Include Single Mother Families	68.6%	-1.3	-1.9
Include Income Deficit	69.0%	-0.9	-1.3
Include Disability Rate	65.7%	-4.2	-6.0
Include Student Mobility Rate	67.7%	-2.2	-3.1

B. Accounting for Sending-Receiving Relationships

A considerable number of school districts are engaged in sending-receiving relationships whereby a district educates students from another community on a tuition basis. There may be situations in which a district receives students from a community with substantially different demographics. As designed in the past, the DFGs were based on the characteristics of the community in which the district is located, not the communities in which the enrolled students live. This may lead to a district being classified in an inappropriate DFG.

When submitting the Application for State School Aid (ASSA) data, districts involved in sending-receiving relationships provide information on the community from which their students originate. This information allows the department to calculate a "weighted" SES score for school districts based on the students' community of origin.

It should be noted that this method prevents the assignment of a DFG to non-operating school districts, as these districts do not operate school buildings. The characteristics of students in these communities will be accounted for in the district where the student actually attends school.

C. Accuracy of the Census Data

The census data used to calculate the DFGs provide information on the characteristics of the community in which the school districts are located. In general, this provides a reasonable approximation of the demographics of students served by the public schools. However, some district representatives raised concerns that the demographics of the community are not representative of the students served by the schools. This situation may occur, for example, in communities where the more privileged children in a community attend non-public schools.

In attempting to address this concern, one needs a data source that provides a broad range of data on demographic characteristics specifically for the students enrolled in public schools. The National Center for Education Statistics (NCES), in conjunction with the Census Bureau, released the School District Demographic System (SDDS). This data set aggregates information from the Decennial Census at the school district (rather than municipal) level. More importantly, it also provides information specifically for parents who have children enrolled in public schools. In theory, these data should be useful in addressing the concern that was raised.

Upon release of the data, the department developed estimates of the DFGs based on the characteristics of parents with children enrolled in the public schools. Detailed analysis of these data suggested that it would not be a suitable replacement for the data used in the past. These data raised two concerns. First, there were a significant number of school districts in which there were fewer than 70 parents included in the sample. With all survey data, it is necessary to have a sufficient sample size to ensure the sample is representative of the population in question. While there is not a specific requirement, the Census Bureau uses a sample size of 70 for reporting purposes when writing reports based on other data collections. Second, using

this data would require omitting the unemployment rate from the analysis. As will be discussed in Appendix B, there was a problem with the unemployment rate as estimated using the Decennial Census data. The Bureau on Labor Statistics (BLS) provides an alternative, more accurate measure of the unemployment rate at the municipal level. There is no source that will provide this information specifically for the parents of children enrolled in public schools.

Some have recommended using the demographic data collected to develop the School Report Card to determine the SES of districts. The advantage of this strategy is that the data are collected for the students who attend the individual schools and, therefore, would accurately reflect the student body's demographic characteristics irrespective of any divergence from the broader community characteristics.

These data raise two concerns, however. First, the data do not contain the wider range of variables that are most strongly associated with SES. While the data do include information on income level (the percent of students who are eligible for free or reduced lunch) there is no information on other key indicators.

Second, the department reviewed independently conducted analysis that classified districts using these data (defining SES by race and percent of students eligible for free and reduced lunch). The results demonstrated the limitations of this data source. The districts were divided into five SES groups, with more than half of all school districts being classified in the highest SES category. The lack of variation observed diminishes the utility of such a classification mechanism.

In the absence of a more suitable data source, the Decennial Census data are used. To avoid classifying school districts in an inappropriate DFG, two limitations are imposed. First, no SES score is calculated for a community in which there were fewer than 70 respondents to the Decennial Census "long form" (the questionnaire delivered to one in six households containing more detailed questions). Second, a school district will not have a DFG classification if more than half of the school-aged children in the community attend nonpublic schools. Both limitations were also used in the 1990 DFG analysis.

D. Application to County Vocational Districts

In the past, county vocational districts were not included in the DFG classification process. When releasing summaries of districts' performance on statewide assessments, the department has grouped these districts into a separate category. It has been suggested that this process creates a comparison of county vocational districts to each other, even though they may serve students of dissimilar demographic backgrounds. It was recommended that county vocational districts receive a DFG classification based on the district of origin of the students they serve.

While this recommendation is intuitive on a certain level, its appropriateness rests on the assumption that the students who choose to attend the county vocational schools are demographically similar to their counterparts who do not. Given the self-selection process involved and the fact that a relatively small share of students from any given district attends

county vocational schools, it is unlikely that this is a reasonable assumption. As such, vocational districts will continue to not be included in the DFG calculations.

IV: Final DFG 2000 Calculations

A. Calculating District Factor Groups Using Decennial Census 2000 Data

Based on the above considerations, the 2000 DFGs are devised using a process that includes the following steps:

1) Initial SES score calculation: An SES score is calculated for each municipality (except those in which the sample size is insufficient or at least half of the resident students attend private schools). The SES score is determined by applying principal components analysis to the six variables previously discussed. As in previous versions of the DFGs, the first principal component is used as the SES score.

2) Weighted SES score: This step has not been done in previous DFG calculations. Each district receives a weighted SES score that incorporates the information from the previous step as well as information regarding the origin of the students attending the district's schools. In most cases, schools receive students from the community in which it is situated. However, there are some districts that receive a significant share of students from other communities.

3) Grouping: Given that an SES score has been calculated for each school district, the final step is to group districts with similar scores into a DFG class. To preserve the underlying meaning of each DFG classification relative to the current measure, the same grouping method is used in this version.

Table 3 summarizes the impact each of the six variables has on the final SES score that was calculated for each municipality. Variables with a negative factor pattern decrease the communities' SES scores and are indicators of lower SES. The results indicate that the three parameters that have the largest impact on SES are related to education attainment and occupation. These findings are consistent with both the 1990 DFG analysis as well as other research that measures SES.

Table 3
Factor Patterns from Final Principal Components Analysis

Variable	Factor Pattern	Contribution to Factor
Occupational Status	0.94477	19.0%
No High School Diploma	-0.93281	18.5%
Some College	0.93125	18.4%
Median Family Income	0.89625	17.1%
Poverty Rate	-0.81912	14.3%
Unemployment Rate	-0.77312	12.7%

Through implementation of the PCA, each municipality has an SES score calculated based on its values of the six variables listed in Table 3. Apportioning the municipal-level SES score requires calculating a weighted average of this statistic based on the municipalities where students enrolled in the districts' schools live. Table 4 provides a hypothetical example of school district in which the students enrolled in its schools originate from three different municipalities. The district serves Municipality 1, but also receives students on a tuition basis from two other communities. The municipal level SES scores indicate that Municipalities 1 and 2 have slightly higher and lower than average SES characteristics, respectively. Municipality 3 has SES characteristics substantively greater than average.[2] When the SES scores for the three municipalities are combined for District 1, the weighted average SES score equals 0.156. This figure is only slightly higher than the SES score for Municipality 1 because only a small fraction of the students enrolled in District 1 resides in Municipality 3.

Table 4
Example of Municipal SES Score Aggregation

	Share of District 1 Students	SES Score	Share x SES Score
Municipality 1	90%	0.15	0.1350
Municipality 2	7%	-0.15	-0.0105
Municipality 3	3%	1.05	0.0315
District 1 SES Score			0.1560

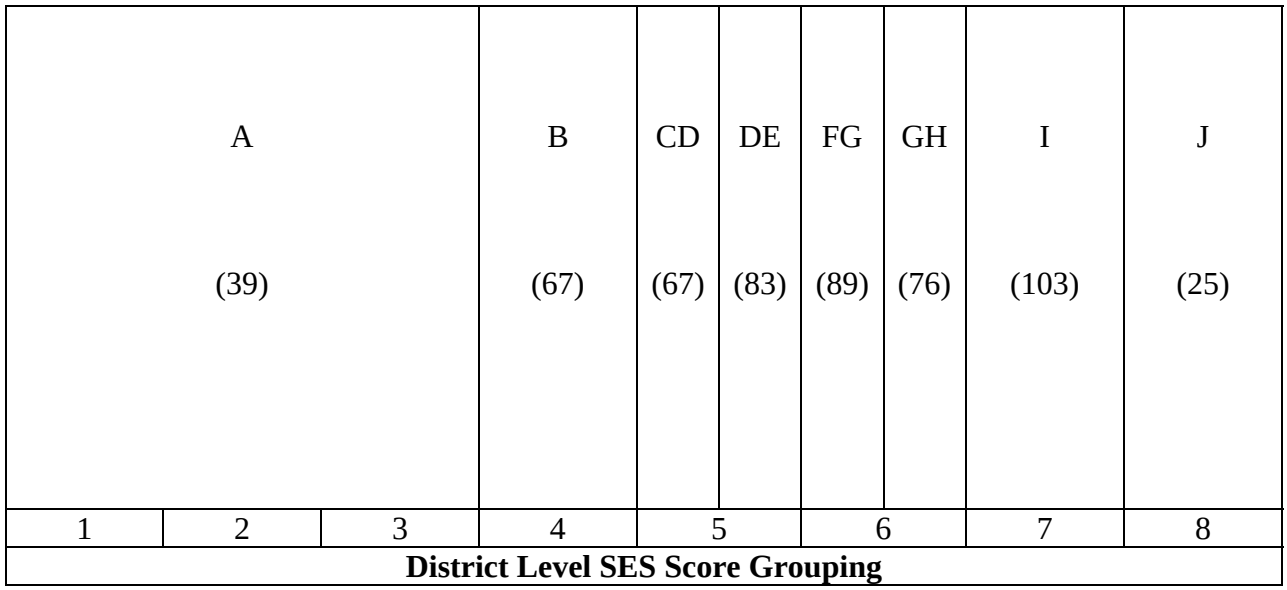
The school district level SES scores range from -3.7017 to 2.2143. As noted in the 1990 DFG report, these scores have little meaning to a non-statistical observer. To make the measure more useful, districts with similar SES scores are categorized into a DFG class. To ensure that the underlying meaning of each DFG class does not substantively change (given the multiple uses of the DFGs), the same method used in the 1990 analysis to divide the districts into discrete groups is replicated here. As shown in Figure 1, the range of SES scores in divided into eight groups such that the difference in the lowest and highest score in range 1 is equal to the same difference observed in range 8. Note that this allows for different numbers of school districts to fall in each range. Given that the distribution of SES scores is skewed (that is, there are a small number of school districts with extreme values) some of the SES ranges must be combined to get an appreciable number of districts in an SES group. The bottom three groups are combined to yield DFG A districts (39 in total) while the districts in the fifth and sixth groups were split to form the four middle DFG classes.

B. Updated DFGs and Test Score Performance

As noted, the department developed the DFGs for the purpose of having a mechanism by which similar districts could be compared in terms of their performance on statewide assessments. One may expect that the average student performance on these exams would increase from DFG A to DFG J. Table 5 shows the average score for each section of the

[2] In statistical terms, the SES scores are standardized such that the average equals 0 and the standard deviation equals 1.

Figure 1
District Factor Groups (Number of Districts)



Elementary School Proficiency Assessment, Grade Eight Proficiency Assessment, and the High School Proficiency Assessment administered during the 2001 – 2002 school year. Without exception, the average student performance increases as one progresses through the DFG classes.

Table 5
Average Statewide Assessment Score, By 2000 DFG

	ESPA		GEPA			HSPA	
	Lang Arts	Math	Lang Arts	Math	Science	Lang Arts	Math
A	208.9	199.4	201.0	191.3	201.4	209.9	197.4
B	214.1	210.3	213.4	206.4	217.4	221.0	212.3
CD	218.3	219.0	217.2	208.7	224.0	224.7	216.2
DE	221.8	224.8	221.9	214.6	228.6	228.3	220.5
FG	224.1	229.3	224.9	220.5	232.3	230.9	226.2
GH	226.1	233.4	227.8	225.7	235.2	234.6	231.2
I	230.6	240.4	233.4	231.8	240.1	240.1	239.6
J	233.8	247.1	238.5	238.6	244.0	244.1	244.8

Additional Data Considerations

Most of the variables utilized were taken directly from the Decennial Census data without any additional transformations. However, certain corrections were required for two variables, the unemployment rate and occupational status. This appendix provides a more detailed explanation of the data problems encountered and how they were resolved.

--Unemployment Rate

Individuals are considered to be unemployed if they currently do not have a job but participate in the labor force (being in the labor force entails either currently having or actively seeking a job). The Decennial Census asked respondents a series of questions and used the responses to determine the individuals' labor force participation and unemployment status.

An error was detected in the unemployment rates produced by the census data. Research conducted by the Census Bureau (summarized in Data Note 4 for Summary File 3) found that a combination of how certain respondents answered a battery of questions and the Census Bureau's data processing procedures caused individuals living in group quarters to be classified as unemployed at unusually high rates.

The impact of this problem is not uniform across communities. Instead, the effect was greatest in areas in which a large share of the residents lives in group quarters, such as college dormitories. For example, this error led to an unemployment rate of 42.3 percent in Princeton Borough, the location of Princeton University.

While the Census Bureau's analysts were able to identify the source of the problem, they are not able to issue corrected data. To avoid using inaccurate data in developing the DFGs, an alternative source that measures the unemployment rate at the municipal level is needed. Fortunately, the New Jersey Department of Labor maintains records of municipal level unemployment rates for each year. These data were used in place of the Census Bureau figures.

--Occupational Status

Previous versions of the DFGs relied on two data sources to calculate the occupational status of workers in each community. First, the Decennial Census data were used to identify the number of people employed in 12 broad occupational categories (such as professional or sales). Second, the results of a survey were used to provide information on the level of "prestige" associated with each of the broad occupational categories. The average prestige score (based on the percent of workers employed in each category) yields the municipalities' occupational status.

The occupations recognized by the Census Bureau are derived from the Standard Occupation Classification (SOC) codes. As a result of substantial changes to the SOC codes, the Census occupation codes were significantly revised in the 2000 Census. Two of the more relevant changes are 1) the number of occupation groups for which the Census Bureau released data on the SF 3 file and 2) how occupations were grouped into the broader occupation groups.

These changes are problematic because there are currently no studies of occupational prestige based on the latest classification scheme. Therefore, there are occupational prestige scores for the 12 occupation groups from the 1990 census, not the 33 listed in the 2000 census.

To address this problem, the 33 more detailed occupation groups from the 2000 census were mapped to match the 12 groups from the 1990 census. Once this was accomplished, the prestige scores derived in a study by Keiko Nakao and Judith Treas (NT) were used to apply the prestige scores to the corresponding occupation groups. The results of this mapping are shown on Table 6. The occupation groups listed in bold type reflect the 1990 occupation groups. Those in regular type and indented are the 2000 occupation groups and are placed under the appropriate 1990 occupation category.

Overall, this approach provides a reasonable means of matching the two classification methods. However, two occupation groups were not quite straightforward. Each group is discussed below.

Private Household Service Workers

One such group is private household service workers. In the past, the census data has separated this group from other service workers (not including protective service workers). In the 2000 data, both groups are combined. Since there is no way to separate the two in the 2000 data, both groups would receive the average prestige score associated with other service workers.

Based on the NT prestige scores for the individual occupations and the numbers of people employed in each, there is no reason to believe that combining the two groups will bias the results. There is a substantial difference in the prestige ratings for private household service workers (25.41) and other service workers (36.6) in the NT study. However, there were less than 500,000 employed in the former group, while there were more than 12 million employed in other service occupations. As such, combining the two would only have a negligible effect on the total prestige score.

Handlers, Equipment Cleaners, Helpers, and Laborers

Similar to private household workers, this occupation classification is no longer used in the Census Bureau's listing. After reviewing the detailed job classifications, it appears that the jobs once listed under this heading are either 1) no longer used (this is particularly true of "laborers") or 2) classified under some other heading (for example construction "helpers" are now included under Precision Production, Construction, and Repair). The specific jobs under this heading had very few people actually employed in that occupation (for example, there were less than 65,000 construction helpers). Again, this should not yield a substantive impact on the overall occupational prestige scores.

Table 6
Occupation Classification Mapping: 1990 and 2000 Decennial Census

Executive, Administrative, and Managerial
- Management Occupations, except farmers and farm managers
- Business Operations Specialists
- Financial Specialists

Professional Specialty Occupations
- Computer and Mathematical Occupations
- Architects, Surveyors, Cartographers, and Engineers
- Life, Physical, and Social Science Occupations
- Community and Social Services Occupations
- Legal Occupations
- Education, Training, and Library occupations
- Arts, Design, Entertainment, Sports and Media Occupations
- Health Diagnosis and Treating Practitioners and Technical Occupations

Technicians and Related Support
- Drafters, Engineering, and Mapping Technicians
- Health Technologists and Technicians
- Aircraft and Air Traffic Control Occupations

Precision Production, Construction, and Repair
- Supervisors, Construction and Extraction Workers
- Construction Trade Workers
- Extraction Workers
- Installation, Maintenance and Repair Occupations

Administrative Support, Including Clerical
- Office and Administrative Support Occupations

Sales
- Sales and Related Occupations

Protective Services
- Fire Fighting, Prevention, and Law Enforcement Workers, Including Supervisors
- Other Protective Service Workers, Including Supervisors

Transportation and Material Moving
- Supervisors, Transportation and Material Moving Workers
- Motor Vehicle Operators
- Rail, Water, and Other Transportation Occupations
- Material Moving Workers

Machine Operators, Assemblers, and Inspectors
Production Occupations

Farming Forestry, and Fishing
Farmers and Farm Managers
Farming, Fishing, and Forestry Occupations

Service Workers
Healthcare Support Occupations
Food Preparation and Serving Related Occupations
Building and Grounds Cleaning and Maintenance Occupations
Personal Care and Service Occupations

Private Household Service Workers
None

Handlers, Equipment Cleaners, Helpers, and Laborers
None