



# Southern Lehigh School District Demographic and Life Cost Analysis

Complete reports are on district's [Facilities Committee Agendas and Minutes](#) webpage



# Elementary School Statistics

	Lower Milford	Hopewell	Liberty Bell	Intermediate School
<b>Built &amp; Occupied</b>	<b>1950</b>	<b>1970</b>	1963	2009
<b>Renovations</b>	<b>1962 &amp; 1991</b>	<b>None</b>	1999	None
<b>Acres</b>	<b>20</b>	<b>23</b>	20	32
<b>Square Footage</b>	<b>39,000</b>	<b>51,600</b>	59,265	140,000
<b>Current Occupancy</b>	<b>183</b>	<b>305</b>	322	736
<b>Current Curriculum Occupancy</b>	<b>242</b>	<b>344</b>	344	950
<b>Building's Maximum Occupancy</b>	<b>242</b>	<b>392</b>	441	1038
<b>Building Prints</b>	<a href="#">Support Slide 2A</a>	<a href="#">Support Slide 2B</a>	<a href="#">Support Slide 2C</a>	<b>Support Slide 2D</b>

# Life Cost Analysis

- Barry Isett & Associates, Inc. was selected from 3 firms considered for review of Hopewell and Lower Milford. ([Support Slide 3A](#))
- Goal – To identify future costs associated with repair and renovation of Hopewell and Lower Milford.
- Worked directly with an engineer rather than an architect.
- The full report is found on the SLSD website.

[http://www.slsd.org/files/filesystem/Hopewell%20Report\\_issett.pdf](http://www.slsd.org/files/filesystem/Hopewell%20Report_issett.pdf)

[http://www.slsd.org/files/filesystem/Lower%20Milford%20Report\\_issett.pdf](http://www.slsd.org/files/filesystem/Lower%20Milford%20Report_issett.pdf)



**BARRY ISETT & ASSOCIATES, INC.**

Multidiscipline Engineers & Consultants

Civil  
Survey  
Land Planning & Development  
Grants  
Water & Waste Water  
Mechanical  
Electrical  
Plumbing  
Structural  
Forensics  
Traffic  
Municipal  
Code Review  
Facilities Services  
Construction Services  
Geological  
Landscape Architecture  
Environmental

## Property Condition Assessment

FOR

## Hopewell Elementary, SLSD

4625 West Hopewell Road, Center Valley, PA 18034

DATE: June 3, 2013

BIA PROJECT #: 1046311.006

85 S. Route 100  
Allentown, PA 18106  
610 • 398 • 0904

1003 Egypt Road  
Pottsville, PA 19460  
610 • 935 • 2178

100 W. Broad Street, Suite 200  
Hackettstown, PA 18201  
870 • 450 • 2999

7 Union Square, 3rd Floor  
Phillipsburg, NJ 08865  
908 • 454 • 9500

[www.barryissett.com](http://www.barryissett.com)

BARRY ISETT & ASSOCIATES Multidiscipline Engineers & Consultants

# Lower Milford Capital Needs

Total estimated cost of repairs \$2,681,750

- **Roof**
- **Paving**
- **Concrete**
- **Plumbing**
- **Sewage Treatment**
- **Kitchen**
- **ADA (American with Disabilities Act) Upgrades**
- **Miscellaneous**



# Lower Milford

## Life Cost Analysis

- **Roof**
  - \* New roof in 1991
  - \* Slope roof replaced flat 1991
  - \* Drop ceiling added in 1991
  - \* Asphalt shingles breaking down
  - \* Many leaks and repairs
  - \* Replacement is a high priority
  - \* \$250,000
- **Paving**
- **Concrete**
- **Plumbing**
- **Sewage Treatment**
- **Kitchen**
- **ADA Upgrades**
- **Miscellaneous**





# Lower Milford

## Life Cost Analysis

- Roof
- Paving
  - \* Paved 1950 & 1991
  - \* 1950 very poor
  - \* Slag base
  - \* Alligating & Cracks
  - \* \$320,750
- Concrete
- Plumbing
- Sewage Treatment
- Kitchen
- ADA Upgrades
- Miscellaneous



# Lower Milford

## Life Cost Analysis

- Roof
- Paving
- Concrete
  - \* Installed 1991
  - \* Cracking expansion and curb
  - \* Yearly repairs
  - \* Safety concerns from staff
  - \* \$25,500
- Plumbing
- Sewage Treatment
- Kitchen
- ADA Upgrades
- Miscellaneous





# Lower Milford

## Life Cost Analysis

- Roof
- Paving
- Concrete
- Plumbing
  - \* Installed 1950 & 1991
  - \* Replaced sewer pipe 2009
  - \* Floor drain urinals
  - \* Cut holes into walls for repair
  - \* Most plumbing has crawl space
  - \* ADA compliance–classroom loss
  - \* \$145,500
- Sewage Treatment
- Kitchen
- ADA Upgrades
- Miscellaneous





# Lower Milford

## Life Cost Analysis

- Roof
- Paving
- Concrete
- Plumbing
- **Sewage Treatment**
  - \* Built in 1991
  - \* Fully functional and maintained
  - \* Rust and corrosion
  - \* \$795,000
- Kitchen
- ADA Upgrades
- Miscellaneous



# Lower Milford

## Life Cost Analysis

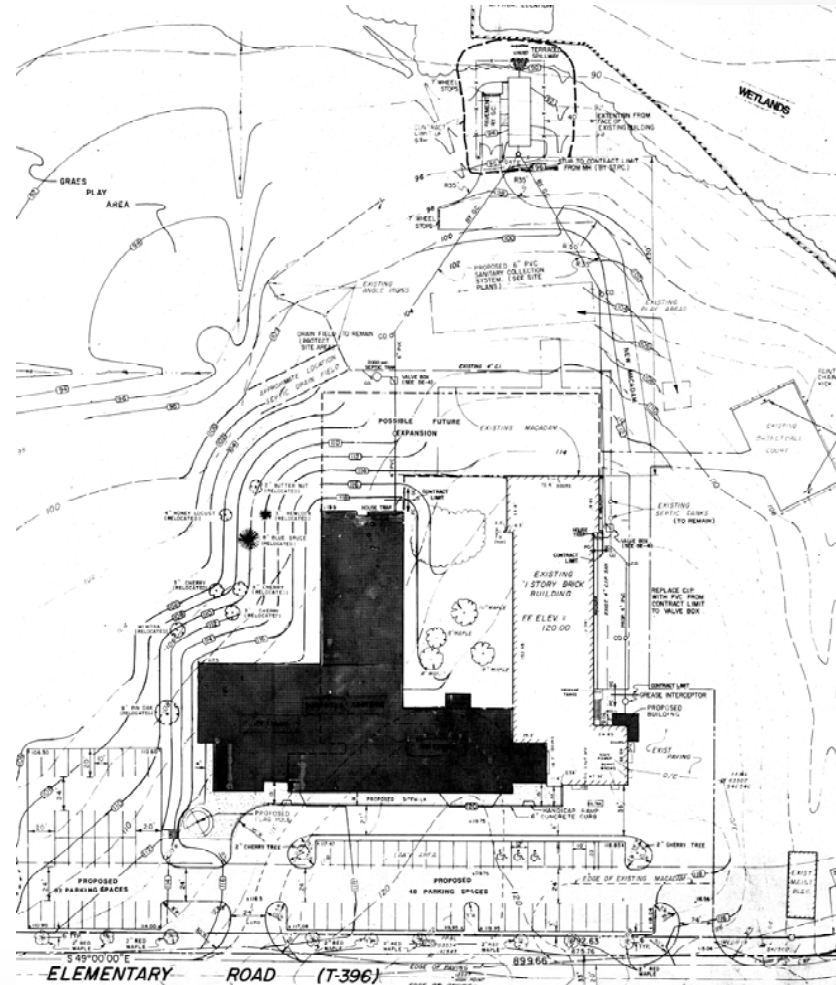
- Roof
- Paving
- Concrete
- Plumbing
- Sewage Treatment
- Kitchen
  - \* Built 1950 & 1991
  - \* Very tight working area
  - \* Equipment 23 years and older
  - \* \$225,000
- ADA Upgrades
- Miscellaneous



# Lower Milford

## Life Cost Analysis

- Roof
- Paving
- Concrete
- Plumbing
- Sewage Treatment
- Kitchen
- **ADA Upgrades**
  - \* Restrooms
  - \* Exits
  - \* Ramps
  - \* \$445,000
- **Miscellaneous**





# Lower Milford

## Life Cost Analysis

- Roof
- Paving
- Concrete
- Plumbing
- Sewage Treatment
- Kitchen
- ADA Upgrades
- **Miscellaneous**
  - \* Masonry pointing and lintels - \$77,500
  - \* Casework - \$68,750
  - \* Electrical upgrades - \$308,750
  - \* Well - \$20,000
  - \* Total - \$475,000



# Lower Milford Life/Cost

## Summary

- Built 1950 – Renovated 1962 & 1991.
- Renovation included new roof structure, drop ceilings and an addition.
- Future expansion will be difficult or impossible.
- Total repair cost \$2,681,750. [\(Support Slide 13A\)](#)

# Hopewell Capital Needs

Total estimated cost of repairs may exceed \$12,000,000

- **Interdependent Systems**
- **Asphalt**
- **Electrical Service**
- **Plumbing**
- **HVAC**
- **Kitchen**
- **Miscellaneous**





# Hopewell

## Life Cost Analysis

- **Interdependent Systems**
  - \* Electric, Lighting, HVAC Ceiling
  - \* HVAC, Roof, Decking
  - \* Plumbing, Walls, Floors, ADA
  - \* Asphalt, Sidewalks
- Asphalt
- Electrical Service
- Plumbing
- HVAC
- Kitchen
- Miscellaneous



# Hopewell

## Life Cost Analysis

- Interdependent Systems
- **Asphalt**
  - \* Paved 1970 with newer section
  - \* Slag base
  - \* Oil & chipped
  - \* Alligating & Cracks
  - \* \$369,000
- Electrical Service
- Plumbing
- HVAC
- Kitchen
- **Miscellaneous**
- 



# Hopewell

## Life Cost Analysis

- Interdependent Systems
- Asphalt
- **Electrical Service**
  - \* Service is outdated
  - \* Exceeded useful life
  - \* Single 20A circuit to classrooms
  - \* \$2,310,000
- Plumbing
- HVAC
- Kitchen
- **Miscellaneous**





# Hopewell

## Life Cost Analysis

- Interdependent Systems
- Asphalt
- Electrical Service
- **Plumbing**
  - \* All 1970
  - \* Many repairs over 10 years
  - \* Leaks in walls
  - \* Waste pipes under the floor
  - \* Restroom Plumbing - \$144,500
  - \* ADA Restroom - \$539,250
- HVAC
- Kitchen
- **Miscellaneous**



# Hopewell

## Life Cost Analysis

- Interdependent Systems
- Asphalt
- Electrical Service
- Plumbing
- **HVAC**
  - \* Installed 1970
  - \* Two Compressor Replacements
  - \* Poor Design
  - \* Three failures in 12 months
  - \* Parts difficult to find and acquire
  - \* \$2,536,000
- **Kitchen**
- **Miscellaneous**



# Hopewell

## Life Cost Analysis

- Interdependent Systems
- Asphalt
- Electrical Service
- Plumbing
- HVAC
- **Kitchen**
  - \*Walk-in freezer issues
  - \*Equipment failing
  - \*No air conditioning
  - \*Dishwasher replaced 2011
  - \*385,000
- Miscellaneous





# Hopewell

## Life Cost Analysis

- Interdependent Systems
- Asphalt
- Electrical Service
- Plumbing
- HVAC
- Kitchen
- **Miscellaneous**
  - \* Generator - \$97,000
  - \* Fire Protection - \$91,000
  - \* Cabinets - \$43,750
  - \* Concrete - \$25,500
  - \* Total - \$257,250



# Hopewell Life/Cost

## Summary

- All systems are 43 years old. Many have exceeded life expectancy but are functioning well due to upkeep and maintenance.
- Many systems are interdependent on one another.
- Repair will require school closure.
- Total identified repair costs \$7,472,750. ([Support Slide 22A](#))
- Additional renovation costs resulting from roof structure analysis, destructive investigation of floors/walls and full ADA compliance could exceed \$5,000,000. ([Support Slide 22B](#))
- Total costs could exceed \$12,000,000.

# Demographic Study

- Dejong-Healy – Future Think was selected from 7 firms that were considered. ([Support Slide 23A](#))
- Goal - to identify future needs from growth and population shifts.
- Very cautious not to overestimate growth.
- Full Report – found on the SLSD website,  
[http://www.slsd.org/files/filesystem/report\\_future%20think%204-10.pdf](http://www.slsd.org/files/filesystem/report_future%20think%204-10.pdf)



## FINAL REPORT

Southern Lehigh School District  
Lehigh County  
Enrollment Projections  
April 10, 2013



# Demographic Study

## Findings

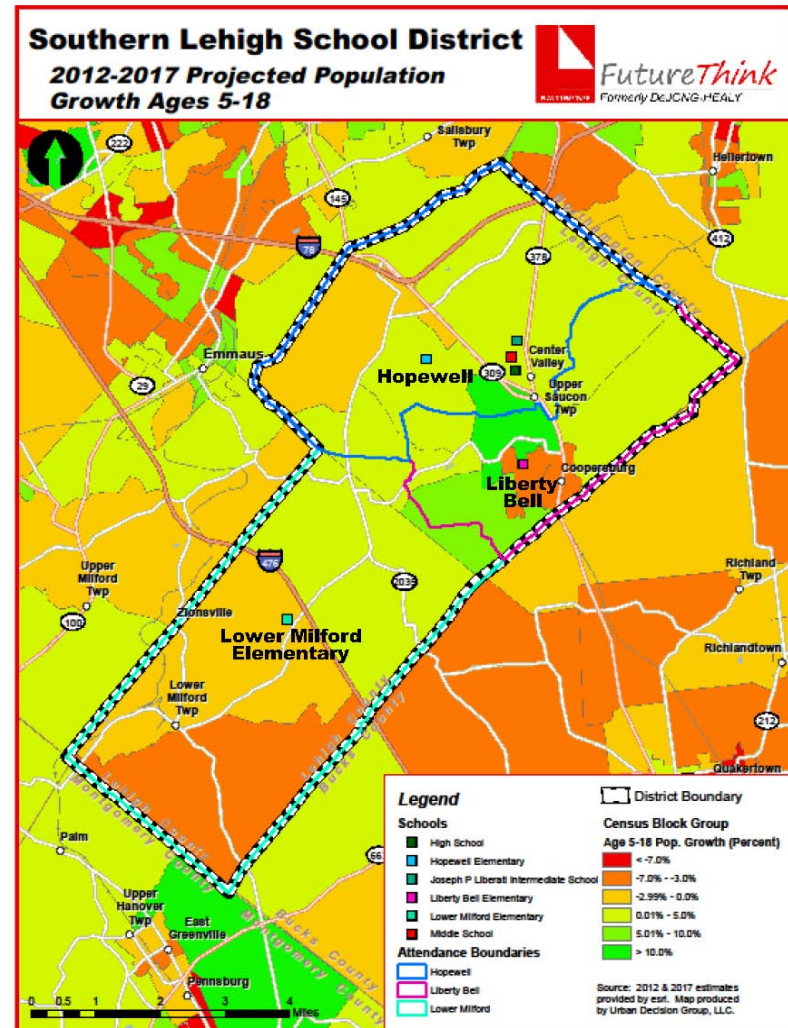
- Between 2003/2004 and 2012 SLSD enrollment increased 5.3%, from 2,958 to 3,115 students.
- Since 2006/2007 Nonpublic enrollment dropped from 522 students to 396 students, a 24% decrease.
- Over the past 10 years Charter School enrollment rose from 26 to 99 students, a 280% increase. Enrollment stabilized and remained nearly flat since 2009/2010.

[\(Supporting Charts 24A\)](#)

# Demographic Study

## Projections

- An increase population of approximately 4% is projected at the elementary school level over the next 10 years.
- Growth by school boundary not possible because boundaries shift yearly to balance enrollment.
- Greatest growth is anticipated in Upper Saucon Township around Coopersburg Borough.
- A decline in student population is expected south of the turnpike.



# Financial Review

- Lower Milford capital costs over 10 years: \$2,681,750
- Hopewell capital costs over 10 years: \$7,472,750 - \$12,000,000+
- New construction costs: \$285 per square foot
- New 52,000 square foot building with existing demo: \$14,820,000
- Yearly cost of a \$15,000,000 bond: \$490,000



# Options:

	Option A	Option B	Option C	Option D	Option E
Total Capital Cost	\$14 M	\$3.5 M	\$12 M	\$15M	\$17M
Yearly Bond Costs	\$460K	\$100K	\$400K	\$490K	\$550K
Operational Cost Savings	No Change	\$600K	\$600K	\$650K	\$50K
Net Yearly Cost	\$460K	\$500K savings	\$200K	\$160K Savings	\$500K
K-3 Student Capacity	930	586	688	688*	930*
Risk of Unplanned Shutdown	High	Low	High	Low	Low
Future Expansion Options	Possible	No	Possible	Yes	Yes
Disruption to Educational Programs	High	Medium	Medium	Low	Medium

\*Design efficiency of new building may increase occupancy

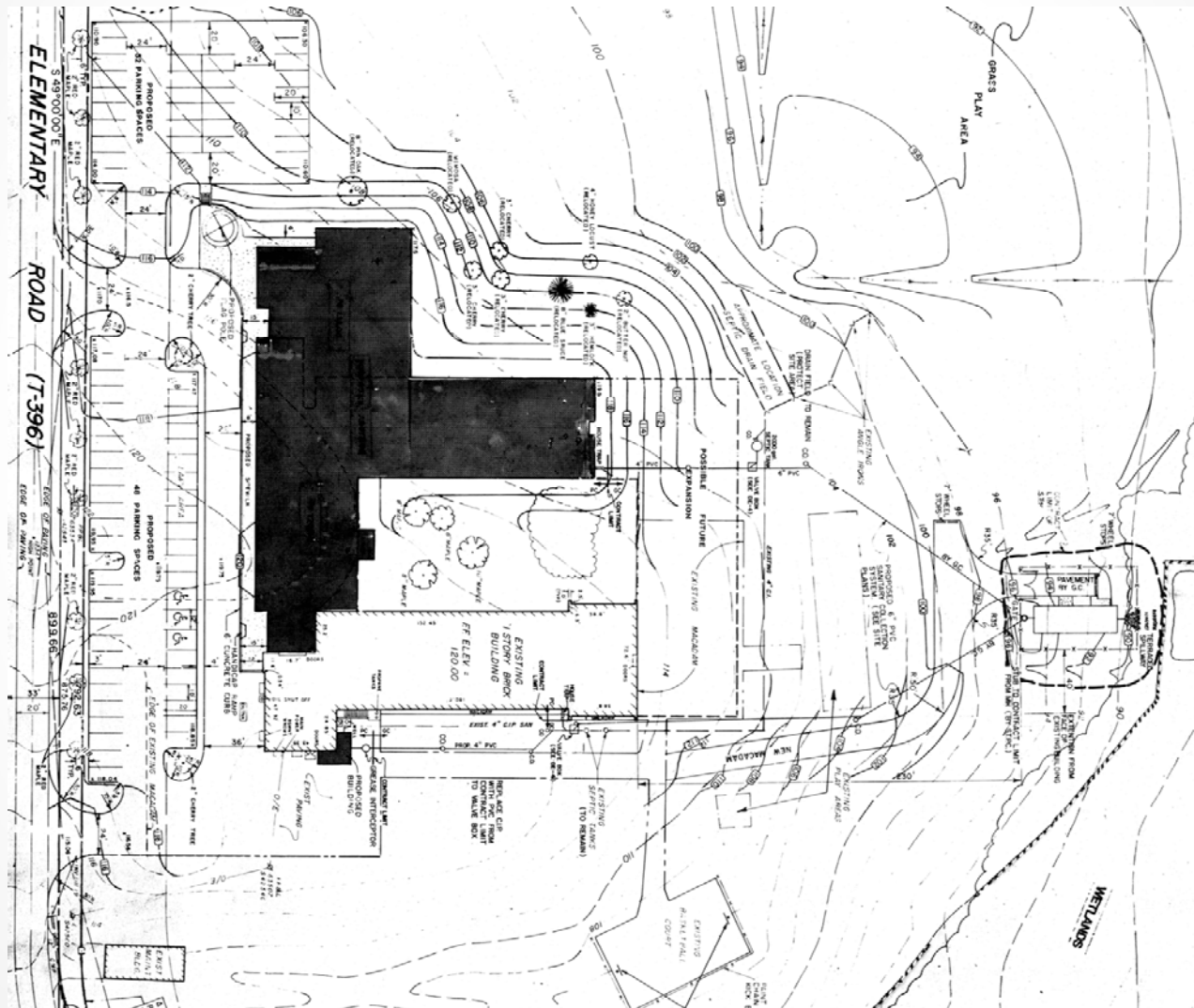
- **Option A – Execute a 10 year capital plan repairing Hopewell and Lower Milford**
- **Option B – Repair Lower Milford then demolish Hopewell**
- **Option C – Renovate Hopewell then close Lower Milford**
- **Option D – Demolish Hopewell, build a new building and close Lower Milford**
- **Option E – Demolish Hopewell, build a new building and repair Lower Milford**

# Discussion



All reports are found on the district's website [Facilities Committee Agendas and Minutes](#)

# Lower Milford Site Plan







# Liberty Bell Site Plan



# Firms Considered for Life Cost Analysis

- **Barry Isett & Associates –**
  - ✓ 85 South Route 100, Allentown, PA 18106
  - ✓ Familiar with SLSD
  - ✓ Good working relationship
- **Gilbert Architects Inc. –**
  - ✓ 626 N Charlotte St., Lancaster, PA 17603
  - ✓ Reputable school architectural firm
  - ✓ Outsourced engineering
  - ✓ Construction Motivation may skew findings
- **D'Huy Engineering Inc.–**
  - ✓ 1 E. Broad Street, Bethlehem, PA 18018
  - ✓ Active and familiar with school construction
  - ✓ Proposal late after numerous requests



## Lower Milford 10 Year Capital Costs

System	Cost	Year
Roof & Downspouts	\$250,000.00	2014
Masonry Repairs	\$77,500.00	2014
Concrete Sidewalks	\$25,500.00	2015
Asphalt Paving	\$320,750.00	2015
Restrooms (1950)	\$145,500.00	2016
ADA Upgrades	\$445,000.00	2016
Cabinets	\$68,750.00	2017
Kitchen (1950)	\$225,000.00	2018
Electrical Upgrades	\$308,750.00	2019
New Well	\$20,000.00	2020
Waste Water Plant	\$795,000.00	2021
Contingency	\$385,000.00	

# Hopewell 10 Year Capital Cost

System	Cost	Priority
Electrical System	\$2,310,000.00	1
Generator	\$97,000.00	1
HVAC	\$2,536,000.00	1
Fire Protection	\$91,000.00	1
Asphalt	\$369,000.00	2
Concrete	\$25,500.00	2
Cabinets	\$43,750.00	3
Kitchen	\$385,000.00	4
Restrooms	\$144,500.00	4
ADA Restroom	\$539,250.00	4
Contingency	\$975,000	

# Potential Costs for Hopewell

- **Roof Deck**
  - 1996 snow load damaged roof
  - Engineering and structural support completed at that time
  - Isett suspects detailed review may be required
  - Costs could approach \$3,700,000
- **Plumbing in Masonry Walls**
  - All supply plumbing runs through masonry walls
  - Masonry Pipe chases would be required
  - Finished of tile could be an issue not included in price.
  - Costs without finishes \$100,000
- **Floor Demo and Patch for Sub-slab Sewer Pipes**
  - All sewer pipes are below concrete slab
  - Life expectancy of cast iron pipes is 50 years
  - Finished of tile could be an issue not included in price.
  - Costs without finishes is \$200,000
- **Floor Replacement**
  - Flooring will require replacement
  - Classrooms have low levels of asbestos in floor tile
  - Average flooring with demo cost \$10.50 to \$20 per square foot
  - Cost \$500,000 to \$1 million.



# Demographic Firms Considered for Study

- Dejong-Healy – Future Think
  - Selected for study – Excellent references and experience in Pennsylvania
- Thomas Comitta Associates, Inc.
  - Runner-up – Excellent reference – Limited School Exp.
- Pennsylvania Economy League
  - Performed prior study for SLSD – Higher Cost & mixed references.
- Davis Demographics & Planning
  - California based – Limited PA experience – Focus on larger school districts
- Ingraham Dancu Associates, LLS
  - Performed prior study for SLSD – Not interested but provided insight.
- Stewman Demographics
  - Pittsburgh based – Firm not interested.
- Chris Briem
  - Studies reviewed – Firm not interested.

# Demographic Study Findings

Southern Lehigh School District  
Historical Enrollment

Grade	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
K	195	208	194	200	199	175	172	179	168	167
1	187	214	233	214	226	211	207	194	207	200
2	214	189	229	230	227	225	222	219	217	211
3	206	222	208	236	243	225	234	223	226	231
4	208	209	230	221	231	246	234	244	233	231
5	226	218	213	236	229	231	258	240	246	244
6	241	243	234	230	249	226	236	265	246	259
7	246	250	247	248	246	262	242	243	270	261
8	246	250	254	265	255	243	263	250	247	267
9	256	265	268	258	276	258	256	281	257	261
10	241	260	266	246	257	269	251	248	289	246
11	268	243	260	258	256	254	275	259	255	276
12	224	261	241	250	262	257	247	256	261	261
K-12 Total	2,958	3,032	3,077	3,092	3,156	3,082	3,097	3,101	3,122	3,115

Source: Southern Lehigh School District

Southern Lehigh School District  
Non-Public Enrollment

Grade	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
K	50	47	47	46	40	53	39
1	34	40	39	36	37	36	48
2	51	28	35	38	37	40	34
3	41	51	36	32	33	41	39
4	43	37	44	36	29	33	31
5	54	38	39	41	32	31	30
6	30	41	41	34	40	31	24
7	45	28	31	35	31	38	26
8	44	38	26	32	37	31	39
9	27	28	32	21	23	30	25
10	38	34	28	30	22	22	25
11	31	33	33	26	25	19	18
12	34	25	28	32	20	24	18
K-12 Total	522	468	459	439	406	429	396

Source: Southern Lehigh School District

Southern Lehigh School District  
Charter School Enrollment

Grade	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
K	0	1	1	1	1	2	8	9	3	2
1	2	3	2	3	1	4	7	7	7	5
2	4	3	4	3	2	2	10	3	8	5
3	2	7	4	4	3	1	5	12	4	7
4	0	2	4	4	4	5	3	6	9	5
5	4	0	2	4	1	3	5	3	5	13
6	0	4	1	6	5	3	2	5	3	4
7	2	0	5	4	6	8	6	6	4	2
8	2	2	1	5	1	5	11	4	5	7
9	4	2	9	1	7	10	11	10	13	10
10	2	3	4	10	4	12	11	16	15	12
11	1	3	6	6	13	8	12	11	16	15
12	3	3	8	7	2	9	6	12	12	12
Grand Total	26	33	51	58	50	72	97	104	104	99

Source: Southern Lehigh School District