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Key Assumptions in Modeling the New High School System

Board work session

January 7, 2010

Key Questions to Address

- PART I: What are the critical assumptions associated with determining the number and location of community schools?
- PART II: What criteria should be used in determining optimal sites for community schools?

Part I: Key Assumptions to Address

- Enrollment projections
- Facility capacity
- Student attendance patterns: portion of students attending CBOs, special schools and focus schools
- Community school enrollment range

Enrollment Projections

- Enrollment projections conducted by PSU
- PSU prepares a low growth, medium growth and high growth scenario for K-12 enrollment
- Primary sources for PSU work include*:
 - Historic PPS enrollments
 - 1990 and 2000 Census data
 - Birth data from the Oregon Center for Health Statistics
 - Housing development information from the City of Portland, Metro and Multnomah County

Enrollment Projections Basic Information

Factors Included in Enrollment Projections

Examples of Variables Influencing Factor

Overall population within PPS boundaries



- # of households with children 18 or younger

Net migration



- # of families moving into PPS boundaries versus out of PPS boundaries

Housing Trends



- New housing development

Historic Capture Rate *



- Students attending private schools, transferring to other districts, home schooled, teenagers who have dropped out

Birth Rates/Fertility Rates



- Fertility rates of women over the age of 30, race/ethnicity of population

* Ratio of enrollment in District schools to the school age population living within the District boundary

Historical Accuracy of Projections

- On aggregate, PSU projections are fairly accurate
 - ❑ PSU is almost always directionally correct in enrollment projections
 - ❑ Over the past six years, projections have been within the range provided by PSU

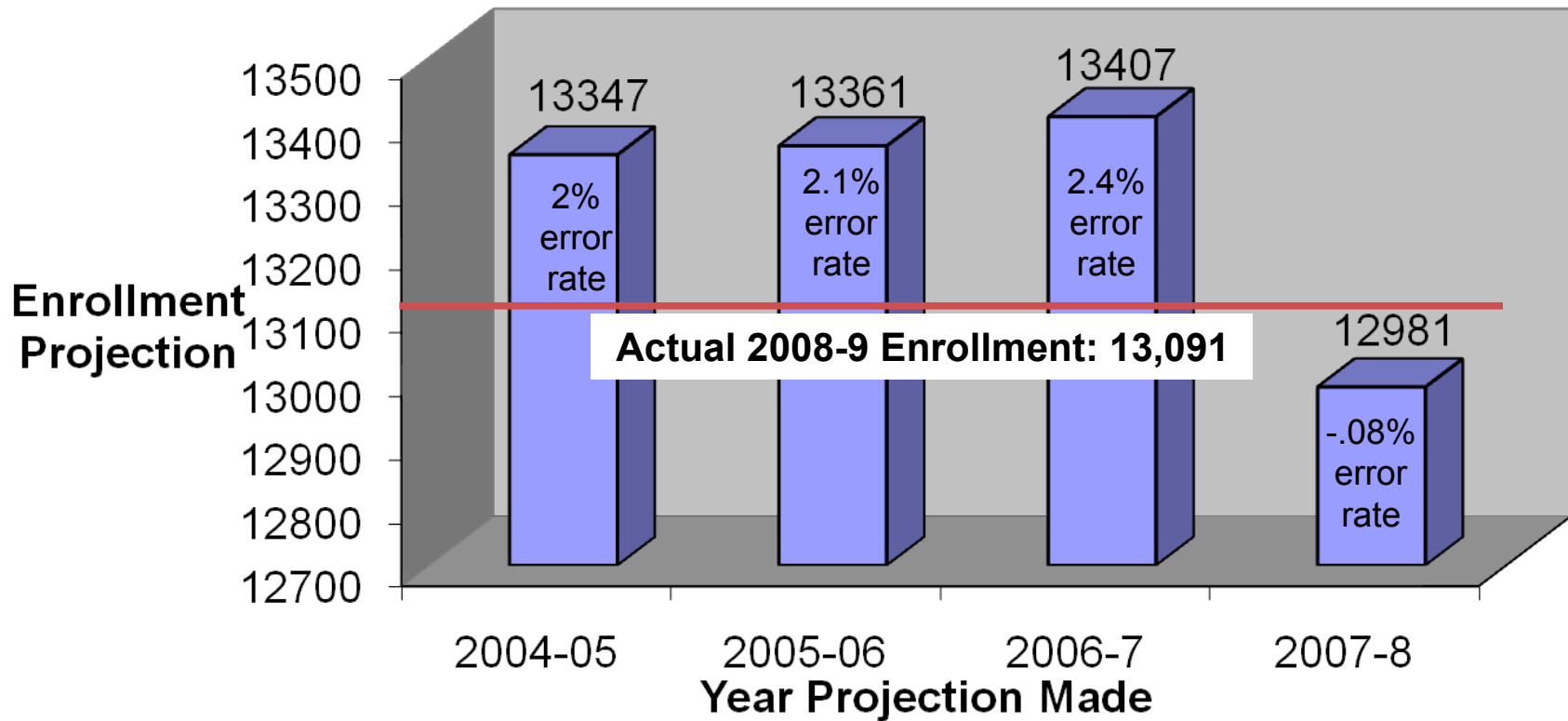
- However, projections are rarely, if ever, fully accurate
 - ❑ For the past six years, total K-12 enrollment has been higher than the medium growth forecast prepared during the previous school year
 - ❑ In predicting enrollment for 2008-9, the enrollment forecasts for base years 2004-5 through 2007-8 had a 1.2% to 3.7% error rate

- Certain components are more accurate than others
 - ❑ Kindergarten is the least accurate grade
 - ❑ More difficult to project by individual grades than for the entire system and by geographic cluster than for the entire system*

* High school cluster and attendance area forecasts depend on assumptions about the distribution of housing and population growth in small areas within the District over a 12 year period. Individual school enrollments can be affected by changes in school's grade configurations, program offerings and boundary changes.

Historical Accuracy of High School Projections

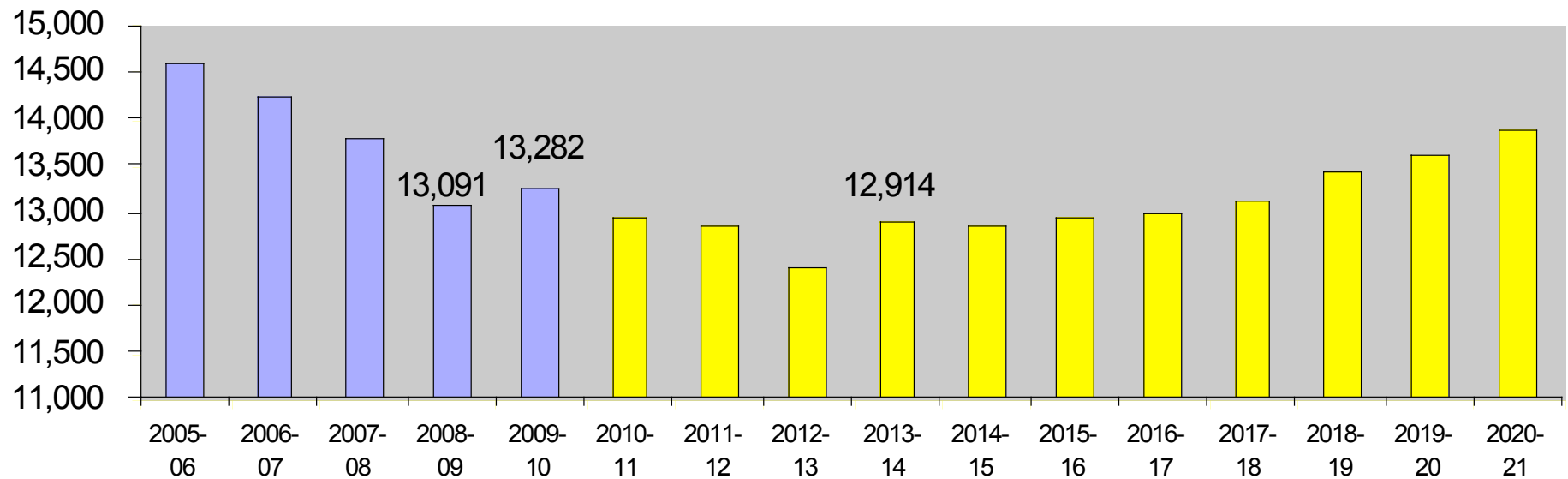
High School Enrollment Projection for 2008-9



High School Enrollment

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Historic and Projected HS Enrollment

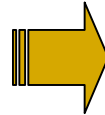


Historic and/or
Current High School
Enrollment

PSU Projected High School Enrollment
Medium growth scenario
Last updated 12/21/09

High School Design Enrollment Assumptions

Initially, High School Design Team will use:



High School Design Team will then apply filters

- 2013-14 high school projection number
 - Most recent projection by PSU (12/21/09)
 - Medium growth scenario for now (high growth scenario number is not yet available/ due January 10th)
 - 12,914 High School students as its enrollment target
- Consider using high growth scenario given past trends and growth at Kindergarten level
 - Apply a range rather than one number
 - Being aware of false precision
 - Account for recent and projected increased graduation rates
 - Model different capture rates across system

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Facility Capacity Basic Information

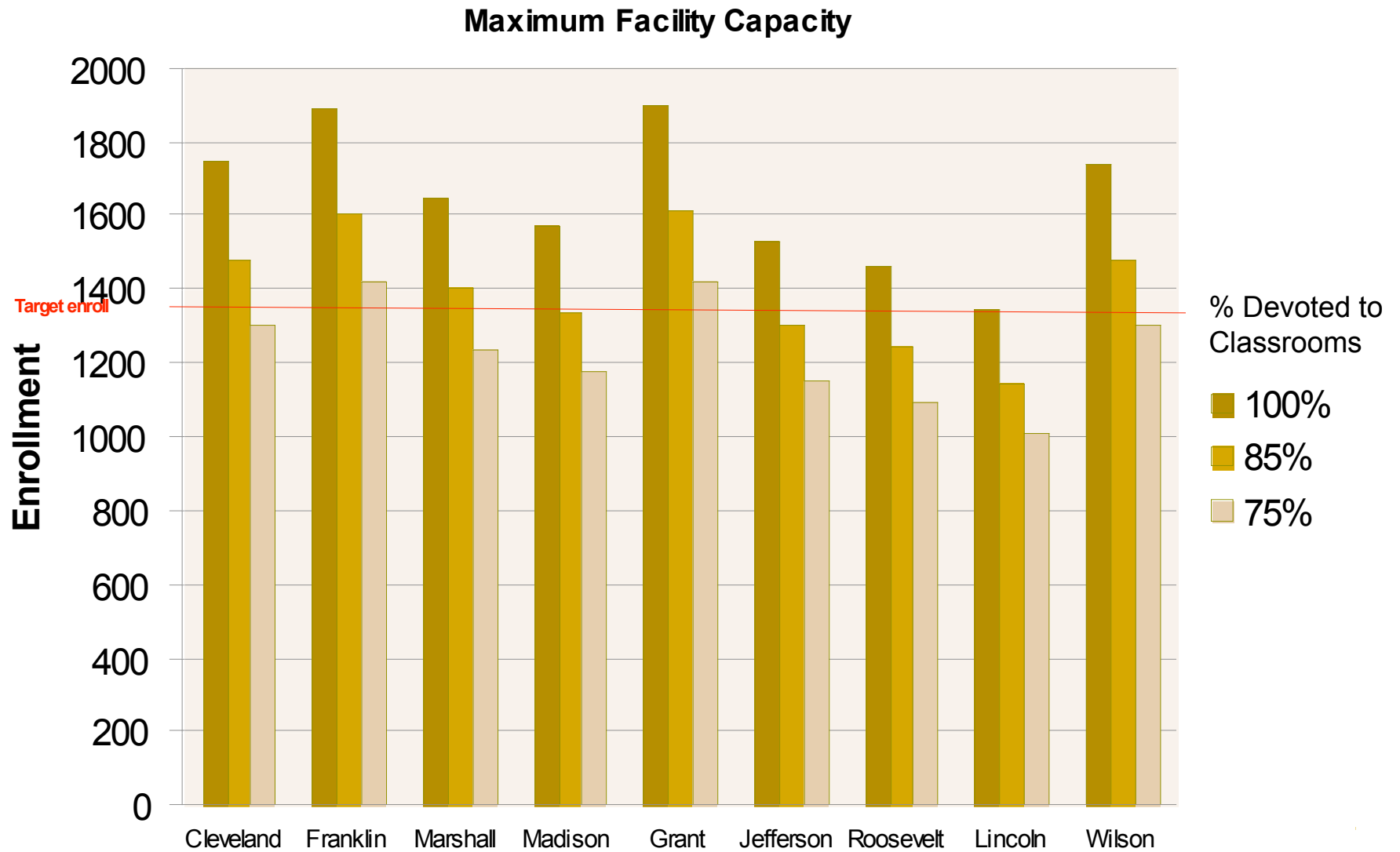
- Assessing maximum facility capacity is critical in avoiding over-crowding and ensuring space for all educational needs

 - Space is needed for traditional classrooms as well as computer labs, special education related classes, teacher planning, teen parent centers, etc...
 - Currently, about 75% of rooms devoted to classrooms across High School System (range is between 62%-87%)

 - Sources for assessing facility capacity
 - Primary data source: Magellan Study 2007-8
 - Supplemented by floor plans, PPS classroom use survey
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Assumptions Related to Facilities

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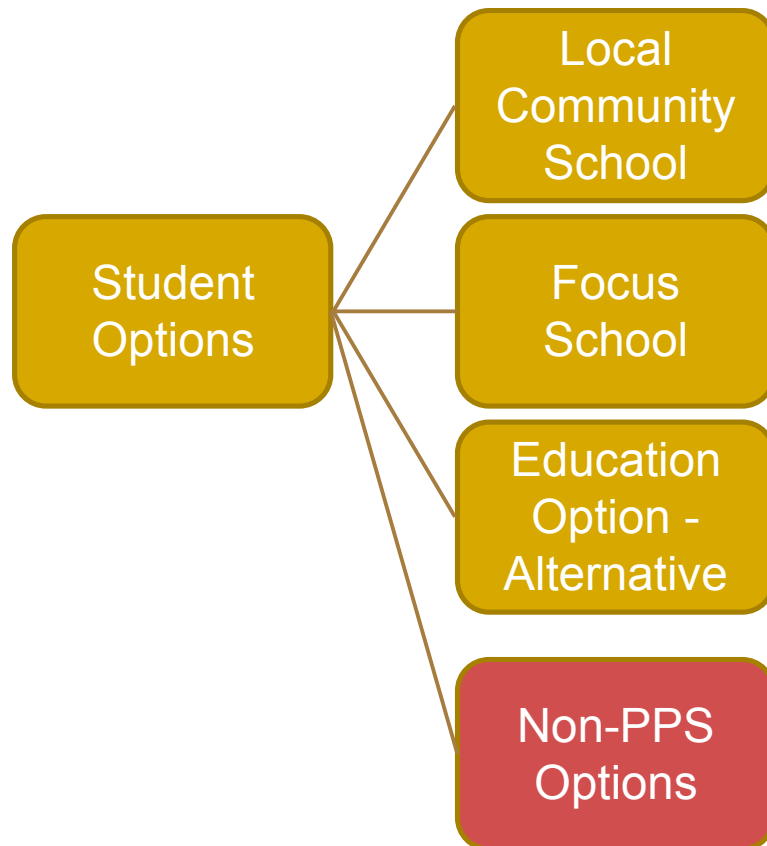
Further Exploration Related to Facilities

- Double check maximum capacity numbers to ensure their accuracy
- Determine approximately what percent of building space should be devoted to classroom versus other uses; set a basic standard

Assumptions Related to Student Attendance Patterns

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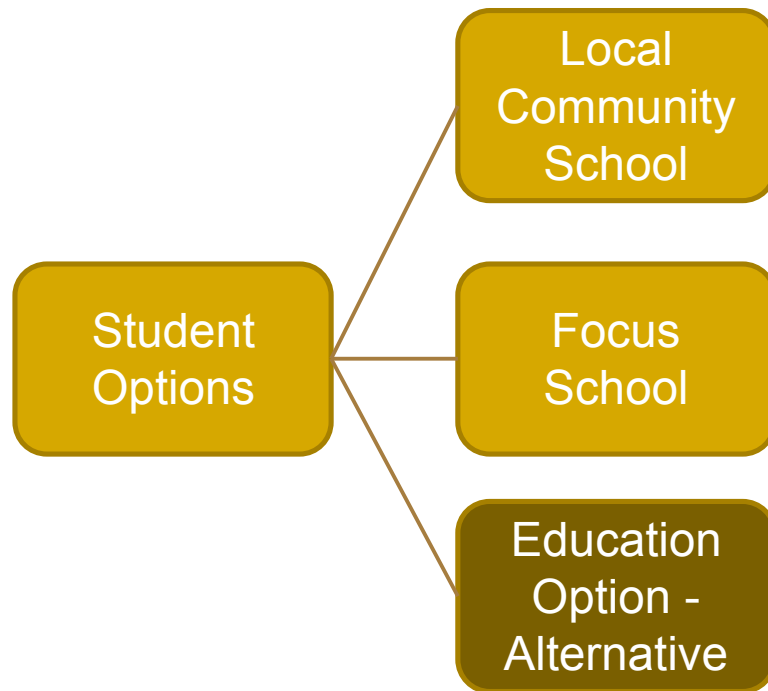
- Some students will not attend their local community school



Key Questions

- How many students will attend focus and alternative schools?
- How do you account for differential rates of attendance in focus or alternative schools by neighborhood?
- How many families will choose non-PPS options?

Assumptions Related to Student Attendance Patterns – Education Options



Assumption about portion of students attending Education Options including CBOs, Special Schools & PPS Alternatives (Alliance)

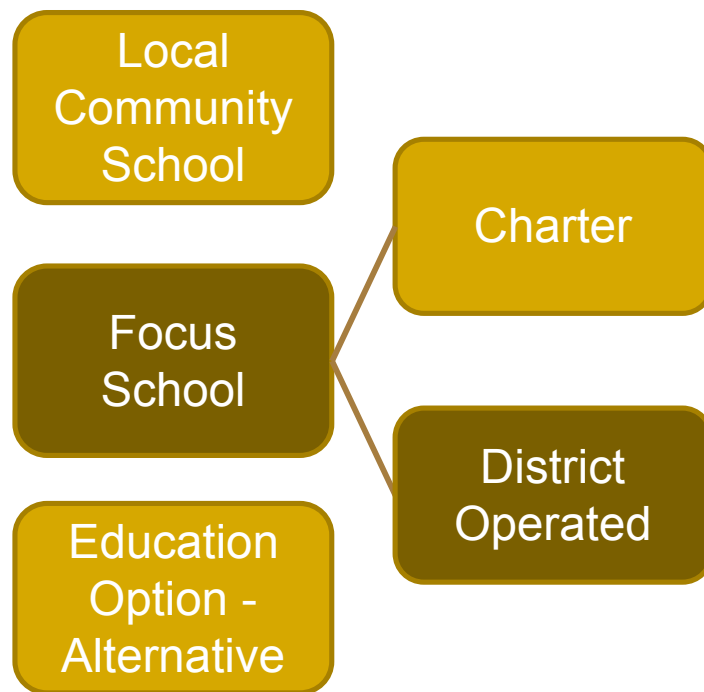
- ❑ Actual 2008-09: 1,842
- ❑ Prelim 2009-10: 1,878
- ❑ Proposed to be stable in future years

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Assumptions Related to Student

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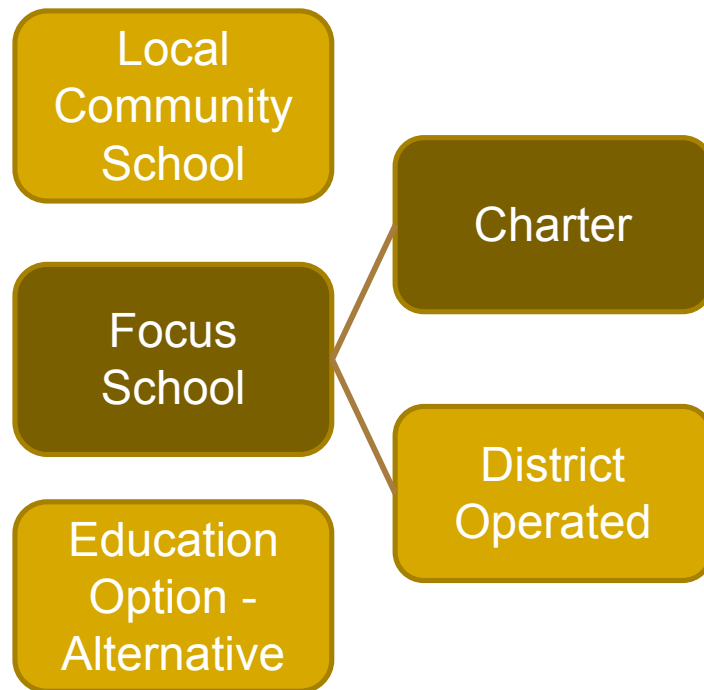
Attendance Patterns – Focus Schools



- Assumption about portion of students attending focus schools
 - Actual 2008-09: 1,300 students (Benson, YWA, MLC) or about 10% of the HS system
 - Preliminary 2009-10: 1,293
 - Current working target: 1,500-1,800 enrollment slots (or about 12-14% of HS system)
 - Research on student interest for focus schools conducted in January 2010

Assumptions Related to Student Attendance Patterns – Focus Schools

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Assumption about portion of students attending charter schools

- ❑ Actual 2008-09: 304
- ❑ Preliminary 2009-10: 362
- ❑ Proposed 2013-13: 600
Increased due to growth at LEP, and opening of HS for Recording Arts

The Big Picture

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Current High School System

- Alternatives = 14%
- Focus Schools/Charters = 3%
- Focus Schools/District Run = 10%
- Community/Neighborhood Schools = 73%

Proposed High School System

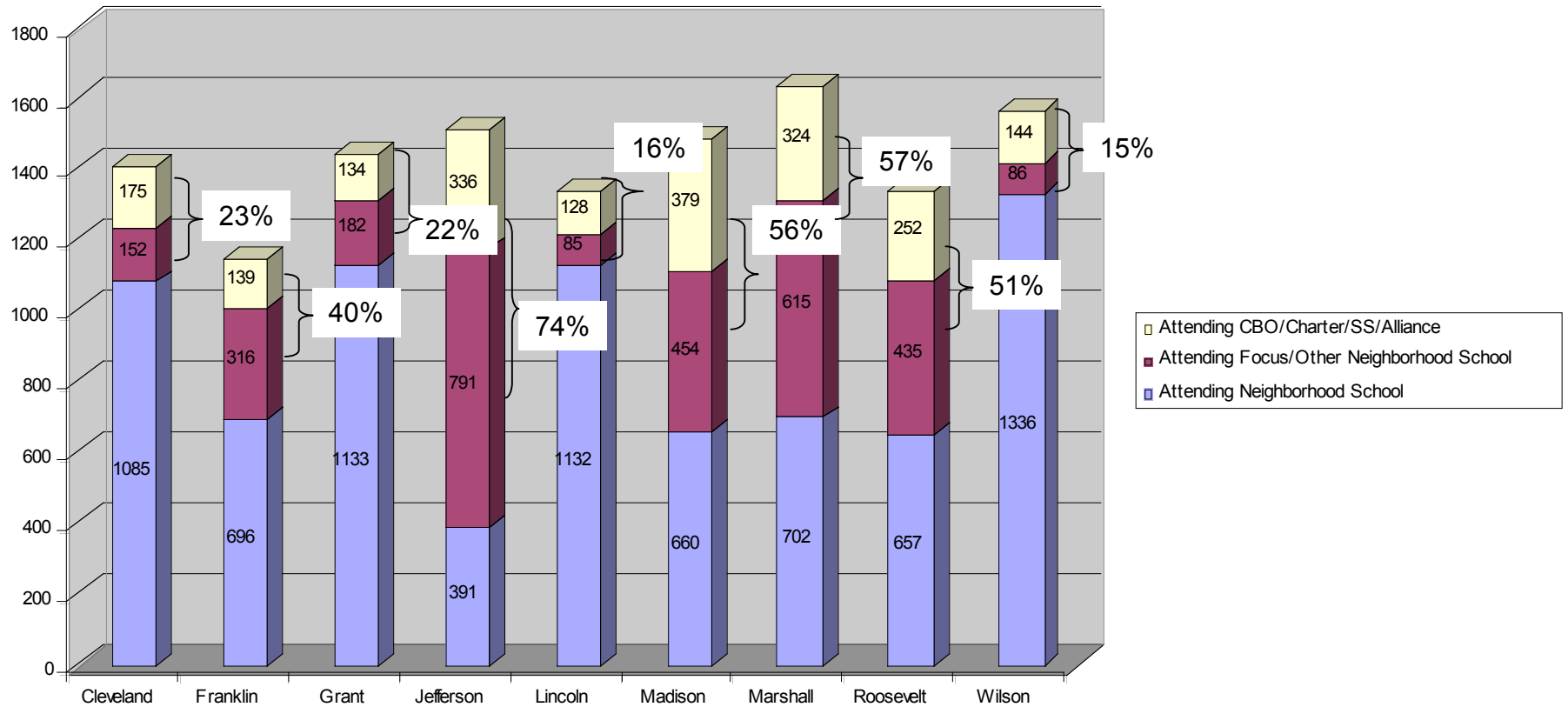
- Alternatives = 14%
- Focus Schools-Charters = 5-6%
- Focus Schools-District Run = 12-14%
- Community Schools = 67%-70%

Key Points

- Alternative school population likely stays the same
- Charter population increases
- At this time, PPS can most impact percent of community school and district-run focus school enrollment

Assumptions Related to Student Attendance Patterns: 2008-9 Enrollment Distribution

2008-9 HS Student Distribution



Assumptions Related to Community School Enrollment

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- Assumption about enrollment thresholds for core program
 - Working target: 1250-1350
 - Based on current staffing practice
 - Need to establish acceptable variance

One Policy Question tied to Enrollment

- Given our desire for equitable student enrollment across our community schools, how might we account for differential rates of attendance by neighborhood and school?

Modeling variability in catchment area size, school attendance-7 school example

Estimated rate of Community School attendance	Total students		Estimated enrollment- Community Schools		Estimated enrollment- all other schools	
	By catchment area	District total	By catchment area	District total	By catchment area	District total
70%-Average 3 schools	1877	5632	1290	3870	587	1760
85%-High 2 schools	1577	3154	1340	2680	237	474
60%-Low 2 schools	2107	4214	1250	2500	857	1714
Enrollment totals		13000		9050		3950

Critical Questions for Board Consideration

- Do you accept these enrollment projection assumptions that we are modeling our system upon?
- What other questions or considerations do you have for the underlying enrollment assumptions?

Optimal site/boundary criteria

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- Sources: Public input to date, Board policy
- Top criteria groups:
 - Proximity: travel distance to assigned school
 - Enrollment diversity: % F/R lunch
 - Enrollment sufficiency: enrollment population sufficient to support the core academic program
 - Stability: continuation with cohort from feeder school
 - Facility utilization: buildings fully in use, without needing modular additions

Criteria: Enrollment Diversity

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Factor	Question	Quantitative Measure
Enrollment Diversity	What is estimated range of economic diversity across community schools?	% of assigned students who qualify for free or reduced-price lunch

Criteria: Enrollment Sufficiency

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Factor	Question	Quantitative Measure
Enrollment Sufficiency	How many schools will have estimated assigned populations within the range needed to support the core academic program?	Number of students residing in elementary or K-8 areas assigned to a school

Criteria – Facility Utilization

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Factor	Question	Quantitative Measure
Facility Utilization	How many campuses will have adequate classroom space to accommodate the assigned population?	Campus capacity estimates divided by the estimated number of assigned students

Criteria - Proximity

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Factor	Question	Quantitative Measure
Proximity	What is the impact of the plan on estimated student travel times?	Current estimated Tri-Met travel time from the assigned elementary or K-8 schools to the assigned community high school

Criteria - Stability

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Factor	Question	Quantitative Measure
Stability	How many neighborhood middle schools will feed into two or more high schools?	The number of assigned high schools for each neighborhood middle school

Other considerations Related to Criteria

- Should we be considering additional criteria? What might be a quantitative measure for any additional criteria?
- Some campuses are very accessible to a key partner (i.e. a neighboring district, a community college). Should this factor into decision-making about locating a community school or focus school?