

Case Studies of Leading Edge Small Urban High Schools

Education Resource Strategies

Regis Anne Shields
Nicole Ireland
Elizabeth City
Julie Derderian
Karen Hawley Miles

Case Studies of Leading Edge Small Urban High Schools

This report is one of nine detailed case studies of small urban high schools. Each case study can be accessed individually or in one complete document at www.educationresourcestrategies.org.

Core Academic Strategic Designs

1. Academy of the Pacific Rim
2. Noble Street Charter High School
3. University Park Campus School

Relevance Strategic Designs

4. Boston Arts Academy
5. Life Academy of Health and Bioscience
6. Perspectives Charter School
7. TechBoston Academy
8. High Tech High School

Personalization Strategic Designs

9. MetWest High School

Also available on our Web site, www.educationresourcestrategies.org:

- Executive summary and full report: "Strategic Designs: Lessons from Leading Edge Small Urban High Schools"
- Detailed methodology
- Data request and interview protocol
- Introduction to the "Big 3" framework
- Comparative Leading Edge School data on diagnostic resource indicators (by school)

Thirty years ago, urban high school organization looked similar from one school to the next. Today, rising dropout rates and persistent achievement gaps have generated an urgency around redesigning the urban high school. Creating small high schools has become a central element of this redesign movement, with reformers envisioning improving instruction and, through the schools' "smallness," creating a supportive community of adult and student learners.

At Education Resource Strategies (ERS), in our work with school and district leaders, we have found that many school districts begin creating small high schools without a clear sense of how much they will spend or how to ensure that small schools organize in ways that will promote high performance. In response, the Bill & Melinda Gates Foundation supported ERS in a three-year effort aimed at building understanding and tools to support districts in creating cost-effective systems of high-performing urban high schools.

This report is one of nine detailed case studies of small urban high schools that served as the foundation for our report "Strategic Designs: Lessons from Leading Edge Small Urban High Schools" (available at www.educationresourcestrategies.org). We dubbed these nine schools "Leading Edge Schools" because they stand apart from other high schools across the country in designing new ways to "do school" while outperforming most high schools in their local districts.

We found that Leading Edge Schools deliberately create high-performing organizational structures, or Strategic Designs, that deliberately organize people, time, and money to advance their specific instructional models — the set of decisions the schools make about how they organize and deliver instruction. They create these Strategic Designs through four interconnected practices:

1. Clearly defining an instructional model that reflects the schools' vision, learning goals, and student population.
2. Organizing people, time, and money to support this instructional model by (a) investing in teaching quality, (b) using student time strategically, and (c) creating individual attention for students.
3. Making trade-offs to invest in the most important priorities when faced with limits on the amount, type, and use of people, time, and money.
4. Adapting their strategies in response to lessons learned and changing student needs and conditions.

Reviewing the case studies, readers will find that teacher characteristics, staffing patterns, schedules, and budgets look very different across the nine schools. Their instructional models reflect three broad approaches to teaching and learning:

1. **Core academics:** a rigorous core academic college-preparatory program for all students;
2. **Relevance:** a curriculum that is relevant to student interests and/or the world in which they live; and
3. **Personalization:** personal relationships between adults and students are fostered to ensure all students are known well by at least one adult.

All Leading Edge Schools incorporate some aspects of each approach, while tending to emphasize one over the others.

We also found that although no school organizes resources exactly the same, high-performing schools organize people, time, and money to implement three high-performance resources strategies. They:

1. Invest to continuously improve **teaching quality** through hiring, professional development, job structure, and collaborative planning time.
2. Use **student time** strategically, linking it to student learning needs.
3. Create **individual attention** and personal learning environments.

Using these strategies as our framework, we assessed case study school practices and quantified their resource use. We did this by creating a set of *diagnostic indicators* that describe how schools best use their resources for improving student performance. They are used throughout the case studies to illustrate resource use.

A detailed methodology, an in-depth introduction to the “Big 3” framework, and a full list of the diagnostic indicators can be found at www.educationresourcestrategies.org.

Education Resource Strategies hopes that these case studies will serve multiple purposes: to generate ideas about implementing strategies in schools; to help develop new small schools and reform existing schools; and to engage colleagues, principals, and teachers in conversations about what is possible in their districts. By detailing how these nine Leading Edge Schools organize their resources — people, time, and money — to improve student achievement, it is our hope that readers will be able to apply the findings to their own context and contribute to changing the national conversation around resource use from “how much” to “how well.”

Core Academic Strategic Designs

1. Academy of the Pacific Rim Charter School

1 Westinghouse Plaza
Hyde Park, MA 02136
www.pacrim.org

As its name suggests, the Academy of the Pacific Rim Charter School is infused with the teachings and traditions of the Far East. High school students take four years of Mandarin Chinese, and the school theme is rooted in *gambatte*, a Japanese term that loosely translates as “persist” or “never give up.” School leaders strive to marry the discipline of Asian teaching with the individualism and creativity of the West.

Pacific Rim’s mission

The Academy of the Pacific Rim’s mission is to empower urban students of all racial and ethnic backgrounds to achieve their full intellectual and social potential by combining the best of the East — high standards, discipline, and character education — with the best of the West — a commitment to individualism, creativity, and diversity.

www.pacrim.org

Pacific Rim opened in 1997 as a public charter school in Boston. It serves students from sixth grade through high school so that the staff can develop long-term relationships with students and adequately prepare them for college. School leaders believe having the 300-plus students spend seven years together in the same building fosters a sense of smallness and personalization that a large, traditional school lacks.

Pacific Rim stresses a comprehensive college-preparatory curriculum that focuses on core academics and developing a culture of working hard to reach high standards. The school has made a concerted effort to stay small. In SY2004–05, Pacific Rim enrolled 330 students: 200 in middle school and 130 in high school. The school admits students by lottery only into the sixth grade, without accepting transfers from

other levels. For comparability to other Leading Edge Schools, this case study examines only Pacific Rim’s high school level.

Unlimited autonomy and flexibility

As a public charter school, Pacific Rim operates independently of the Boston Public Schools system under a five-year charter granted by the Massachusetts State Board of Education. The board of trustees and school leaders control budgets, the hiring and firing of teachers and staff, the curriculum, the calendar, and daily schedules. In return, the school must produce positive results within five years or its charter will not be renewed.¹

Pacific Rim is a standalone charter school — not associated with a charter management organization — led by Director Spencer Blasdale, who has been with the school since it opened in 1997 and oversees the entire academy. The middle school and high school each have principals who spend half of their time in direct contact with teachers, either observing classrooms or through one-on-one conversations.

Pacific Rim also has the authority as a charter to determine its additional support staff. To operate within the per-pupil allocation it receives — without having to raise substantial private funds — the school does not have security guards, custodians, or food service personnel. Instead, everyone, including students, pitches in to keep the school clean, get lunches to students, and perform other needed services — a tangible display of the school’s culture.

High demands and high results

Students have a longer school day and year than their peers in traditional Boston public schools. Pacific Rim high school students spend 1,571 hours in school each year versus a standard Boston Public Schools year of 1,140 hours. High school students take four years of English, math, science, history, and Mandarin Chinese. Each course is 60 minutes, and students must pass their classes with at least a 70 percent average to be promoted or to graduate.

In addition to the five academic subjects, the schedule includes mandatory tutoring, study hall, enrichment classes (e.g., art, drama, physical education), and special “prep classes” to help prepare students for college and beyond. The school also has small advisories of 10–12 students that meet once a week. Each advisory group has students from grades nine through 12 who stay with the same advisor throughout their time in school.

Student demographics

Pacific Rim’s students come from various parts of the city, creating an economically and ethnically diverse population, although slightly different when compared with the Boston Public Schools average, as shown in Figure 1.1. Pacific Rim does not enroll any special education self-contained students or English language learners, and it has fewer students who receive free or reduced-price lunch.

FIGURE 1.1

Student demographics: Pacific Rim and Boston Public Schools district average, SY2004–05

	Pacific Rim	Boston Public Schools district average
Race/ethnicity		
African American	63%	46%
Caucasian	24%	14%
Hispanic	8%	31%
Asian	5%	9%
Other	0%	1%
Socioeconomic status		
Free and reduced-price lunch	53%	71%
Program		
Special education Resource	15%	10%
Self-contained	0%	9%
English language learners	0%	17%

Source: Boston Public Schools, <http://boston.k12.ma.us/schools>, and Massachusetts Department of Education, <http://profiles.doe.mass.edu/>; percentages are rounded to the nearest whole number.

Note: Pacific Rim demographics are reported schoolwide (grades 6–12).

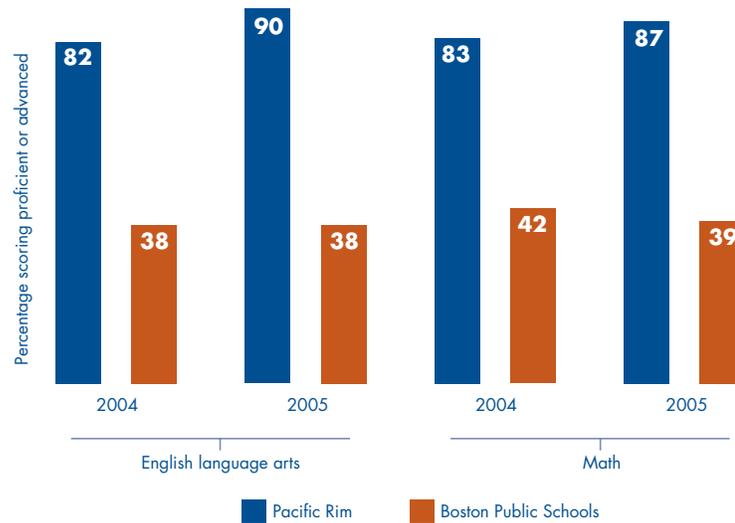
Student performance

Pacific Rim is a high-performing high school within the Boston Public Schools system, based on student performance on the Massachusetts Comprehensive Assessment System (MCAS).² As shown in Figure 1.2, Pacific Rim students significantly outperformed their Boston Public Schools peers in English language arts and math in 2004 and 2005.

On the 2005 MCAS, 90 percent of Pacific Rim students received a score of proficient or advanced in English language arts, and 87 percent of students received proficient or advanced scores in math. In addition, more than 95 percent of the senior class in SY2004–05 passed the English and math exams on their first try, compared with 69 percent and 63 percent of all Boston Public Schools students.³

FIGURE 1.2

Percentage of students scoring proficient or advanced on MCAS: Pacific Rim and Boston Public Schools, 2004 and 2005



Source: Massachusetts Department of Education, <http://profiles.doe.mass.edu/>.

Pacific Rim also exceeds the district in other performance indicators. It has higher attendance, college-going, and promotion rates, as shown in Figure 1.3.

FIGURE 1.3

Other indicators of student performance, SY2004–05

	Pacific Rim	Boston Public Schools district average
Attendance	94%	92% ⁱ
Promotion rate	97%	93%
Out-of-school suspensions	32%	8%
Dropout rate	0.8%	8%
Graduation rate	91%	59%
College-going rate ⁱⁱ	100%	55%

Source: Boston Public Schools, <http://boston.k12.ma.us/schools>, and Massachusetts Department of Education, <http://profiles.doe.mass.edu/>; percentages are rounded to the nearest whole number.

ⁱ: Comparison may be slightly inflated, as district average includes elementary, middle, and high school attendance rates.

ⁱⁱ: Includes two- and four-year public and private colleges.

Per-pupil spending

Massachusetts funds Pacific Rim based on its enrollment and per-pupil funding proportional to Boston Public Schools.⁴ The school is eligible for the same federal funds available to district schools — such as special education, Title 1, and Safe and Drug Free Schools — and also may receive private grants and contributions. The state does not provide comprehensive building assistance funds to charter schools; although each year the Massachusetts legislature has included in the budget a noncompetitive facilities grant that all charter schools are eligible to receive (e.g., \$776 per student in SY2005–06).

Although the middle school and high school operate separately in terms of student and faculty life, Pacific Rim leaders allocate funding fluidly across both schools, based on what they believe is the best program structure for students. The school operates within the per-pupil allotment from the district, and privately raised funds are not used for operating costs.

To maintain a strong and coherent culture, Pacific Rim does not enroll new students in the high school. As a result, if students leave the program after middle school, Pacific Rim’s enrollment (and therefore, revenue) drops, resulting in the middle school partially subsidizing the high school costs. Figure 1.4 shows Pacific Rim high school’s per-pupil costs as compared to the district comparison high school.

FIGURE 1.4

Per-pupil operating expenditures, SY2004–05

	Pacific Rim	Boston Public Schools comparison school ⁱ
Total fully allocated operating budget ⁱⁱ	\$1,556,768	\$14,022,980
General education per pupil (unweighted, fully allocated, including private, no geographic adjuster)	\$10,787	\$8,169
Percentage above that is privately funded	0%	N/A ⁱⁱⁱ
Percentage spent on instruction	54%	48%
Student-teacher ratio	10:1	18:1
Percentage spent on leadership ^{iv}	15%	8%
Percentage spent on pupil services ^v	13%	10%

^{i.} Comparison schools are the highest-performing, nonexam schools in the district that were selected to provide a comparison to the Leading Edge Schools’ per-pupil cost.⁵

^{ii.} Fully allocated operating budget includes the costs of running a school on a daily basis.⁶

^{iii.} Data on private funding were not collected for the comparison schools.

^{iv.} Leadership coding includes all functions associated with governance, school administration, secretaries and clerks supporting school leaders, and accountability (research, evaluation and assessment, community relations, attendance tracking, student assignment, etc.).

^{v.} Pupil services coding includes all functions associated with noninstructional programs.⁷

Pacific Rim spends approximately \$2,600 per pupil more than the Boston Public Schools comparison high school. Most of this additional spending is the result of its investment in a traditional administrative structure that is spread over a smaller number of students. As noted previously, in addition to the director of the school, Pacific Rim has invested in a principal for both the middle school and high school. The school decided on this model so the principals could focus on being instructional leaders and spend more time in classrooms. The school also has a dean of students to focus on discipline and school culture. And to operate within the per-pupil allocation it receives, the school does not have security guards, custodians, or food service personnel (see Appendix 1.4). Rather, everyone at the school, including students, pitches in to fill those roles.

Flexibility dimensions⁸

As a charter school, Pacific Rim has complete autonomy over all aspects of school governance, from hiring and firing staff to negotiating teacher contracts and adjusting class size and student schedules (see Figure 1.5). However, Pacific Rim must comply with special education staffing requirements and No Child Left Behind requirements for highly qualified teachers.

FIGURE 1.5

Flexibility dimensions

Flexibility dimension	Pacific Rim
Hiring and firing	Yes
Teacher time	Yes
Class size	Yes
Student time	Yes
Staffing composition	Yes (within special education requirements)
Salary	Yes
Option to opt out of district services	Yes
Discretion over nonsalary budget	Yes

Resource strategies

The remainder of this case study describes Pacific Rim's practices at the high school level around three resource strategies of high-performing schools: the school's investment in teaching quality, its strategic use of student time, and the provision of individual attention to students.⁹

Pacific Rim resource strategy highlights

1. *Invest to continuously improve teaching quality through hiring, professional development, job structure, and collaborative planning time*
 - Strategic hiring process ensures that faculty fit the school's philosophy and needs
 - Significant investment in professional development for teachers, totaling 198 yearly hours
 - Bonus structure to promote individual teacher growth and increase student achievement
2. *Use student time strategically, linking it to student learning needs*
 - Focuses resources on core academic instruction through rigorous core academic requirements and extending the school day and year
 - Couples rigorous academic standards with embedded academic support for students
3. *Create individual attention and personal learning environments*
 - School design weaves multiple ways of fostering personal relationships between staff and students

■ Resource strategy 1

Invest to continuously improve teaching quality through hiring, professional development, job structure, and collaborative planning time

- *Strategic hiring process ensures that faculty fit the school's philosophy and needs*
- *Significant investment in professional development for teachers, totaling 198 yearly hours*
- *Bonus structure to promote individual teacher growth and increase student achievement*

Strategic hiring process ensures that faculty fit the school's philosophy and needs

As a small school with a strong and unique school culture, Pacific Rim leaders make careful and deliberate decisions about whom they hire. They do extensive outreach for potential candidates and require applicants to teach a sample lesson to a class and participate in numerous interviews. Once the school has made a selection, school leaders invite new hires to work with Pacific Rim teachers during the last few weeks of school so they can see how the school functions and what is expected of teachers. The hiring process is critical to supporting Pacific Rim's program because the school expects a lot from its teachers: that they work longer hours per year (1,908 versus 1,234 for Boston Public Schools) and are experts in their field and advisors to students.

On average, Pacific Rim's teaching staff has fewer years of teaching experience (34 percent of teachers have fewer than three years' experience) and fewer master's degrees (45 percent of Pacific Rim teachers have master's degrees) than their peers in the other Boston case study schools. The experience level may be partly a result of Pacific Rim's extended calendar and its lower starting salary. As a charter school, Pacific Rim does not need to hire certified teachers, and very few of its teachers are certified. However, the school provides stipends to teachers to take the certification test.

Significant investment in professional development for teachers, totaling 198 yearly hours

Pacific Rim devotes two hours every Wednesday to professional development, during which time the school meets as a whole, by departments, or by grade-level teams. This is the only formal collaborative meeting scheduled during the school week, although the size of the school allows for a great deal of informal collaborative time since teachers' desks are in the same space.¹⁰ Opportunities for informal collaboration are enhanced by the amount of time set aside in the day for individual teacher planning, with an average teacher class load of three of five classes.

In addition to the weekly meetings, the teachers' schedules include a combination of full and half professional development days, which totaled 13 in SY2004–05. These days were used to work with teachers around small-group work, dealing with such issues as complex instruction and race relations, analyzing MCAS scores, and infusing literacy across the curriculum. In addition, each Pacific Rim teacher receives \$300 for individual professional development to use at his or her discretion.

The administrative structure at Pacific Rim enables the principals and teachers to focus, almost exclusively, on instruction and student support. The high school principal estimates that he spends at least 50 percent of his day in direct contact with teachers, either in one-on-one conversations or through observing classrooms. He visits each classroom twice a week for one 20-minute observation and one five-minute "drive by." The principal accesses lesson plans on the school server and reviews the scope-and-sequence implementation during classroom visits. In addition to classroom observations, the principal is the primary architect of teacher professional development opportunities.

Valuing teachers' professional knowledge, Pacific Rim also organizes peer observations to occur four times a year among teachers. Faculty members choose with whom they want to pair, observe one another, and provide feedback around each teacher's identified area of need. In SY2004–05, the pairing did not necessarily match teacher need and teacher expertise, which school leaders made a focus for the following year.

The school also has a number of efforts to help support new teachers:

- Newly hired teachers are invited to work with colleagues in their department for the last few weeks of the school year, for which they receive a stipend.
- New teachers are assigned a mentor, with both receiving a stipend.
- New teachers meet formally with the principal one hour per week for their first year.
- New teachers meet with an experienced teacher once a month.

The school's commitment to professional development requires a significant financial investment in the individual and collective growth of faculty, averaging \$7,748 per teacher (all but \$734 per teacher goes to teacher time).

Pacific Rim uses a bonus structure and performance contract to promote individual teacher growth and increase student achievement. Pacific Rim's principal reviews faculty performance twice a year, in February and June, and can decide not to renew a teacher's contract if the teacher does not improve in identified areas by June. All teacher duties and responsibilities, from professional development to commitment to the school culture, are linked to compensation through the school's bonus system (see Figure 1.6).

FIGURE 1.6

Building the bonus

	Percentage of bonus
Individual administrative review (50 percent)	
Teaching	15%
Professionalism	10%
Individual goals	10%
Reinforcing school culture	5%
Advising	5%
Collaboration	5%
Team achievement bonus (50 percent)	
MCAS passing rate	25%
MCAS proficiency and improvement	20%
Parent/guardian survey	5%

MCAS = Massachusetts Comprehensive Assessment System

Bonus structure to promote individual teacher growth and increase student achievement

The bonus system at Pacific Rim makes a strong statement to faculty that the school's goal is to raise student achievement. As Figure 1.6 reveals, 50 percent of the bonus is based on schoolwide performance measures and is either dispersed to all staff members or to none. The teacher bonus is given as a percentage of salary. A new teacher might receive a bonus of \$2,000, and a veteran teacher of Pacific Rim could receive between \$4,000 and \$5,000.

■ **Resource strategy 2**

Use student time strategically, linking it to student learning needs

- *Focuses resources on core academic instruction through rigorous core academic requirements and extending the school day and year*
- *Couples rigorous academic standards with embedded academic support for students*

Focuses resources on core academic instruction through rigorous core academic requirements and extending the school day and year

According to Pacific Rim's director, the goal as a small school with limited resources is to do a few things well. Students spend 1,571 hours in school each year, an additional 431 hours more than the Boston Public Schools standard year of 1,140 hours. The school organizes this longer student day so that 60 percent (or 934 hours) of each year is spent on academic instruction (see Appendix 1.2 for the high school student schedule). Figure 1.7 outlines the course sequence for all students in grades nine through 12.

FIGURE 1.7*Course schedule for Pacific Rim students*

	English	Math	Science	Social studies	Language
Grade 9	Heroes and Journeys	Geometry	Physics	World History up to the Enlightenment	Intermediate Mandarin I
Grade 10	Poets and Playwrights	Algebra II	Biology	Modern World History	Intermediate Mandarin II
Grade 11	American Literature/Composition	Precalculus	Chemistry	U.S. History 1880–2000	Advanced Mandarin II
Grade 12	English Literature/Composition	Statistics	Environmental Field Study	Ethics and Society	Advanced Mandarin II

As shown in Figure 1.7, Pacific Rim extends its core academic graduation requirements into senior year, requiring students to take four years of English, math, social studies, science, and Mandarin Chinese. Pacific Rim also focuses resources on core academics through its limited selection of noncore offerings. Pacific Rim students spend 89 hours, or 6 percent of the year, in noncore subjects, lower than any other study school.

Couples rigorous academic standards with embedded academic support for students

Pacific Rim has structured its academic support so that it is integrated into the school day, facilitated by teachers, and mandatory for students. Integrating this time into the school schedule ensures that students will receive academic support on a regular basis, in a proactive manner. Students must take tutoring sessions, study hall, and preparatory classes in addition to their academic courses listed in Figure 1.7. Preparatory classes vary by grade level and are designed to help prepare students for college and life beyond Pacific Rim. For example, ninth grade students study social issues such as health, sexuality, and conflict resolution; 10th graders take an MCAS preparatory course; and 11th and 12th grade students take college counseling. On average, Pacific Rim students spend 3.5 hours per week in academic support time during the school year. Pacific Rim also extends the school year an additional 10 days to provide students with additional academic support through the school's review period.

■ Resource strategy 3

Create individual attention and personal learning environments

- *School design weaves multiple ways of fostering personal relationships between staff and students*

School design weaves multiple ways of fostering personal relationships between staff and students

Pacific Rim's school design has multiple structures that foster personal relationships between staff and students, including small school size, grades 6–12 model, small teacher loads, advisory, and a strong school culture.

Grades 6–12 model

Pacific Rim's grades 6–12 model, and the small size of the school with only 330 students, creates an automatic opportunity for students and faculty to get to know one another well. Seven years in the same school building with only 330 students fosters a sense of smallness and personalization that is difficult to create in a large, comprehensive high school.

Small teacher loads

Pacific Rim strives to personalize its learning environment by making sure teachers have a small enough group of students that they can get to know them and their learning needs well. To that end, the average teacher load at the high school level is 65 students. In comparison, a teacher at a typical urban comprehensive high school is responsible for almost double the number of students, approximately 125 students at a time.¹¹

Class sizes are average compared to Boston Public Schools, but because faculty teaches fewer classes (three of five), the loads are smaller. Since most Pacific Rim high school faculty teaches courses in more than one grade, it is common for students to loop — meaning they will have the same teacher from one year to the next. Although this is not an intentional strategy, it is a consequence that increases personalization in a small school. The teacher-to-student ratio at Pacific Rim remains low at one to 11.

Advisory groups and parent engagement

Students meet in their advisory groups once a week for one hour. Teachers determine the advisory curriculum, which, at the high school level, is used as an opportunity to monitor student progress (both academically and on social and emotional issues), communicate with parents, and support students as they apply to college.

Parent engagement also is a high priority at Pacific Rim. All teachers have their own e-mail and voicemail, making it easy for parents to contact them. Parents have scheduled meetings with advisors each trimester, attend an orientation in August, and are involved in parent meetings at the school throughout the year. “A lot of our work is about customer service,” says Blasdale, Pacific Rim’s director. “The last thing we want is to lose kids; we’ve made a big investment in them.”

Strong school culture

Each morning, Pacific Rim’s director stands at the school’s entrance to greet students with a handshake — a tangible demonstration of students being recognized as members of the school community. The school culture is built on two Japanese principles: *kaizen* and *gambatte*. The essence of these is: “We work hard, together, and we are always looking for improvement.”¹²

Pacific Rim also fosters a strong culture through the norms and practices it has built into the school day. First, students are expected to wear uniforms, an outward sign that they are part of the same community. Pacific Rim has no custodians, food service personnel, or security guards; everyone at the school pitches in. For example, during a 10-minute break, students sweep the halls and cafeteria, which teaches them to respect their environment and the need for everyone to contribute to make the community better.

Pacific Rim has created time at the end of each week for the entire school to come together for a closing ceremony. These schoolwide meetings foster the sense of community and remind students that they are a part of something larger than themselves. This time also is used to recognize students for demonstrating the principles of *kaizen* and *gambatte*.

NOTES

¹ www.doe.mass.edu/charter/qanda.html

² MCAS is a criterion-based test that all public school 10th grade students take and must pass to receive a high school diploma.

³ Pacific Rim school profile 2004–05, <http://boston.k12.ma.us/schools>

⁴ Massachusetts Charter School Regulation Laws (www.doe.mass.edu/lawsregs/603cmr1.html) and Pacific Rim Web site (www.pacrim.org)

⁵ In Boston, our partnership with the district allowed joint identification of the comparison school and access to the detailed coded budgets. Boston Public Schools comparison school demographics: 1,286 students; 47 percent African American; 6 percent Asian; 6 percent Caucasian; 40 percent Hispanic; 81 percent free or reduced-price lunch; 19 percent students with disabilities; 12 percent English language learners (www.mass.doe.edu).

⁶ These costs include provision and support of the academic program; administration and support services; provision and maintenance of the physical plant; and auxiliary services such as food, transportation, and security. For district schools, some of these costs are administered at the district central office level. If a charter school has a charter management organization (CMO), some of these costs are administered at the CMO level.

⁷ These include social and emotional needs (social workers, character education, mentoring, parent programs, etc.), physical health (itinerant therapists, nurses, etc.), students with disabilities and English language learner evaluation/diagnostics, career/academic counseling, and other noninstructional programs (athletics, truancy, etc.).

⁸ Flexibility dimensions are a school's ability to use its resources — people, time, and money — as it chooses. Schools can be limited by legal or administrative constraints, such as federal or state laws, union contracts, or district policies. The degree of school flexibility depends on both how much it has and whether the school can use the resource as it chooses.

⁹ This framework for analysis, the “Big 3” resource strategies of high-performing schools, is more fully described in Appendix 1.1.

¹⁰ Pacific Rim indicated an interest in having more collaborative planning time built into the teacher day, but it has struggled with scheduling issues that result from the hours and lack of flexibility of the Mandarin Chinese teachers, as well as the small size of the faculty.

¹¹ Teacher load of 125 assumes teachers teach five of seven periods with class sizes of 25, http://nces.ed.gov/programs/digest/d06/tables/dt06_064.asp.

¹² www.pacrim.org/culture.htm

APPENDIX 1.1

Resource strategies

Resource principles	What we see in the school	Diagnostic indicators
Invest in teaching quality		
Hire and organize staff to fit school needs in terms of expertise, philosophy, and schedule	<ul style="list-style-type: none"> Phased application process that begins earlier than the district and includes application, interviews, and teaching a sample lesson to students Strong emphasis placed on finding the right fit with the school's culture 	<ul style="list-style-type: none"> Use of a rigorous, strategic hiring process 30% of core academic teachers with three or fewer years' experience 0% of core teachers teaching more than one subject Do not leverage outside experts for core or noncore courses
Integrate significant resources for well-designed professional development that provides expert support to implement the schools' instructional models	<ul style="list-style-type: none"> Weekly professional development time every Wednesday afternoon; accomplished by student early release Full and half professional development days, totaling 13 days Principal's role as instructional leader supports the delivery of professional development 	<ul style="list-style-type: none"> \$734 per teacher on professional development (not including teacher time) 30% staff with instructional leadership roles
Design teacher teams and schedules to include blocks of collaborative planning time effectively used to improve classroom practice	<ul style="list-style-type: none"> No formal collaborative planning time built into teacher schedules outside of Wednesday professional development. Small size of the school allows for informal collaborative time 	<ul style="list-style-type: none"> 10% of teacher year in professional development 198 total yearly teacher professional development hours 0 minutes collaborative planning time per week 0% professional development in content-based teams
Enact systems that promote individual teacher growth through induction, leadership opportunities, professional development planning, evaluation, and compensation	<ul style="list-style-type: none"> Bonus structure promotes individual teacher growth and increased student achievement Master teachers serve as mentors to new teachers Principal has evaluative responsibilities and serves in an instructional leadership role, visiting each classroom twice each week 	<ul style="list-style-type: none"> Ratio of teachers to school-based evaluators is 12:1 Regular review of teacher performance and growth 0% of teacher compensation for leadership roles

(continued)

(continued)

Resource principles	What we see in the school	Diagnostic indicators
Use student time strategically		
Purposefully align the schools' schedules with their instructional models and student needs	<ul style="list-style-type: none"> Offers a college-preparatory program, focused on core academics with limited noncore offerings 	<ul style="list-style-type: none"> School schedules reflect instructional model and academic needs of students 89 total yearly hours in noncore academics 6% of student year in noncore academics
Maximize time on academic subjects, including longer blocks of uninterrupted time	<ul style="list-style-type: none"> 60-minute periods Longer day and year compared to the district, with resources focused on core curriculum Requires four years of English language arts, math, social studies, science, and Chinese 	<ul style="list-style-type: none"> 1,571 yearly student hours 934 yearly hours in core academics for all grades 60% of student year in core academics 3,737 total core academic hours over four years
Vary individual student time when necessary to ensure all students meet rigorous standards	<ul style="list-style-type: none"> Extra academic support built into the school day through tutoring, study hall, and office hours Rigorous curriculum available to all students; all students have the same schedule and graduation requirements (no tracking) 	<ul style="list-style-type: none"> 8% student year in academic support 122 yearly hours spent in academic support Ratio of time in ninth grade math to average time in math: 1.0 Ratio of time in ninth grade English language arts to average time in English language arts: 1.0
Create individual attention		
Assess student learning on an ongoing basis and adjust instruction and support accordingly	<ul style="list-style-type: none"> Regular review and discussion about student progress 	<ul style="list-style-type: none"> Use formative assessments systematically to guide instruction throughout the year
Create smaller group sizes and reduced teacher loads for targeted purposes	<ul style="list-style-type: none"> Class sizes of 22 and teacher loads of 65 	<ul style="list-style-type: none"> Average class size overall: 22 Average class size core: 22 Average class size English language arts: 22 Average class size math: 22 Average teacher load overall: 65 Average teacher load core: 65 Average teacher load English language arts: 66 Average teacher load math: 66
Organize structures that foster personal relationships between students and teachers	<ul style="list-style-type: none"> Grades 6–12 model Advisory Informal looping around strategic groups of students Partner with families Strong school culture 	<ul style="list-style-type: none"> Grades 10–12 students assigned to an adult advocate providing academic or personal support Student to core academic teacher ratio is 12:1 139 total yearly teacher hours spent in social and emotional support 130 students in grades 9–12

APPENDIX 1.2

Pacific Rim high school sample student schedule

	Grade 9		Grade 10		Grade 11	Grade 12	
7:30–8:05	Greeting and Breakfast						
8:05–8:10	Attendance and Uniform Check-in Period 1						
8:10–9:10 Wed: 8:10–9:05	English 9A	Math 9B	English 10A	History 10B	Science 11	Environmental Science	
9:10–10:10 Wed: 9:05–10:00	Math 9A	Science 9B	History 10A	Math 10B	History 11		
10:10–10:20 Wed: 10:00–10:10	AM Break						
10:20–11:20 Wed: 10:10–11:05	Science 9A	English 9B	Math 10A	English 10B	Chinese 11	Chinese 12	
11:20–11:30 Wed: 11:05–11:15	Cleaning						
11:30–11:50 Wed: 11:15–11:30	Lunch						
11:50–12:15 Wed: 11:30–11:45	PM Break						
12:20–1:20 Wed: 11:50–12:45	Chinese 9C	History 9D	Science 10C	Chinese 10D	Math 11	English 12 (MW Pd. 4–5, F Pd 4)	History 12 (TuTh Pd. 4–5, F Pd 5)
1:20–2:20 Wed: 12:45–1:40	History 9C	Chinese 9D	Chinese 10C	Science 10D	English 11		
2:20–2:30 Wed: 1:40–1:50	Transition						
2:30–3:15 Wed: 1:50–3:15	Tutoring 9, 10, 11, 12	Study Hall 9, 10, 11, 12	Prep 9C MCAS 10 A-B College Counseling 11	Study Hall or Tutoring 9, 10, 12	Modules 9–12 (OnCE, OffCE, Extracurricular, or Study Hall)	Office Hours (2:30–4:05)	Advisory (2:30–3:30)
3:20–4:05 Wed: Dismissal at 3:15	Modules 9–12 (OnCE, OffCE, Extracurricular, Study Hall)		Prep 9D College Counseling 12	Study Hall or Tutoring 9, 10, 11	Early dismissal for students at 3:15		Closing Ceremony (3:35–4:05)

Note: Wednesday has a different schedule than other days and is noted under regular period times.

MCAS = Massachusetts Comprehensive Assessment System; OnCE = On site; OffCE = Off site

APPENDIX 1.3

Pacific Rim high school graduation requirements

Subject	Years of study, grades 9–12
English language arts	4
Math	4
Science	4
Social studies	4
Language	4

APPENDIX 1.4

Pacific Rim staff list

Position	Full-time equivalent	ERS coding categories	Other
Director	0.4	Leadership	Position shared with middle school ⁱ
Business/facilities manager	0.2	Business services	Position shared with middle school
Development association	0.1	Business services	Position shared with middle school
Nurse	0.3	Pupil services	Position shared with middle school
Technology support	0.3	Instruction	Position shared with middle school
Receptionist	0.3	Leadership	Position shared with middle school
Accounting	0.2	Business services	Position shared with middle school
Title I/principal mentor	0.2	Leadership	Position shared with middle school
Drama	0.6	Instruction	Position shared with middle school
Visual arts	0.4	Instruction	Position shared with middle school
Physical education	0.6	Instruction	Position shared with middle school
Head special education	0.4	Instructional support and professional development	Position shared with middle school
Principal	1.0	Leadership	
High school dean	1.0	Leadership	
Full-time substitute/enrollment	0.3	Instruction	Position shared with middle school
College counselor	0.4	Pupil services	
College counselor	0.6	Pupil services	
History	1.0	Instruction	
History	1.0	Instruction	
Science	0.8	Instruction	
Science	0.5	Instruction	
Math	0.5	Instruction	
Chinese	1.0	Instruction	
Chinese	1.0	Instruction	
Math	0.5	Instruction	
Math	1.0	Instruction	
Science	0.2	Instruction	
English	1.0	Instruction	
English	1.0	Instruction	
Speech/language	0.8	Pupil services	
Casework special education	1.0	Instruction	
Counselor	0.5	Pupil services	
Physical therapy	0.2	Pupil services	

ⁱ Of the positions shared with middle school, only the high school portion of the full-time equivalent is included in the table.

Acknowledgments

We would like to thank the Education Resource Strategies staff for the support, energy, and insight that made this report possible.

We also would like to thank the staffs of the Leading Edge Schools for participating in this study, sharing their insights, and devoting their precious time for interviews, data collection, and review of the case studies.

We are grateful to the Bill & Melinda Gates Foundation, for both providing funding for this report and serving as a champion for excellence in high schools across the country. Please note the Foundation did not influence content of this report.

Education Resource Strategies, Inc., is a nonprofit organization that has worked extensively with urban public school systems to rethink the use of district- and school-level resources and build strategies for improved instruction and performance.

Our mission is to be a catalyst for the creation of high-performing urban school systems by promoting and supporting the strategic management of education resources. Our unique strength is in our action research where our partnerships with school systems bridge research and practice. We support our clients with Web-based tools, research and training, and diagnostic analyses tailored to their districts. Together, we outline strategies that are actionable and transformational both within and beyond the districts in which we work.

ERS's work and research have identified several areas in which school systems effectively leverage their resources to improve instruction, forming the basis for our five practice areas: Strategic School System Design; School Funding and Staffing Systems; Strategic School Design; School Support, Planning, and Supervision; and Human Capital.

For more information on Education Resource Strategies and our work and practice areas, visit www.educationresourcestrategies.org.

Rethinking the Cost of Small High Schools Project

The Bill & Melinda Gates Foundation supported Education Resource Strategies in a three-year effort aimed at building understanding and tools that would support districts in creating cost-effective systems of high-performing urban high schools.

Out of our extensive research, we created the following reports and tools to support leaders as they consider and design small high schools in their districts. All materials are available at www.educationresourcestrategies.org.

- *"The Cost of Small High Schools: A Literature Review"*
- *"Strategic Designs: Lessons from Leading Edge Small Urban High Schools"*
- *"Case Studies of Leading Edge Small Urban High Schools"*
- *"District Spending in Small and Large High Schools: Lessons from Boston, Baltimore, and Chicago"*
- **Going to Scale Tool**
- **Small Secondary School Design Tool**
- **District Assessment Tool**



Education Resource Strategies

1 Brook Street

Watertown, MA 02472

617.607.8000

www.educationresourcestrategies.org