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An Evident Disconnect between City Planning and Education Policy Makers: A Case of Bangkok's Troublesome Public School Infrastructure

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ABSTRACT

Public schools are important elements of public, social and physical infrastructure. The quality of cities depends on the quality of schools. Likewise, the quality of schools depends on the quality of cities. This paper analyzes a profound and detrimental disconnect between city planning and education policy makers in terms of provision of public education facilities in Bangkok. This is evident in the deficiency of public school infrastructure to provide enough capacity for an oddly and robustly increasing population of a metropolitan city of Bangkok. This study incorporated primary and secondary school density in each district of Bangkok (in terms of area and population) through secondary data (Ministry of Interior) to show how oddly distributed are the education facilities. City planning scholars need to increase their engagement with public schools and school facilities and think more critically about how development and redevelopment decisions ultimately impact our public schools.

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AN EVIDENT DISCONNECT BETWEEN CITY PLANNING AND EDUCATION POLICY MAKERS: A CASE OF BANGKOK'S TROUBLESOME PUBLIC SCHOOL INFRASTRUCTURE

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Abstract

Public schools are important elements of public, social and physical infrastructure. The quality of cities depends on the quality of schools. Likewise, the quality of schools depends on the quality of cities. This paper analyzes a profound and detrimental disconnect between city planning and education policy makers in terms of provision of public education facilities in Bangkok. This is evident in the deficiency of public school infrastructure to provide enough capacity for an oddly and robustly increasing population of a metropolitan city of Bangkok. This study incorporated primary and secondary school density in each district of Bangkok (in terms of area and population) through secondary data (Ministry of Interior) to show how oddly distributed are the education facilities. City planning scholars need to increase their engagement with public schools and school facilities and think more critically about how development and redevelopment decisions ultimately impact our public schools.

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1. Introduction

Any nation's public schools are important elements of public infrastructure. The quality of cities depends, in part, on the quality of schools. Likewise, the quality of schools depends on the quality of cities. Yet there is a profound disconnect between cities and schools that is evident in local practice, research, professional degree programs, and most levels of policy making. Likewise, there is a troublesome disconnect between the education field and the field of city planning that needs to be overcome. For example, while planning for new and existing schools is rarely part of a university's city planning program

curriculum, so too are school facility issues altogether absent from most education program curriculum. As a result, the cross-pollination of these fields is missing at the professional development level in each core curriculum—a trend that works to support a “cities and schools disconnect” found in practice, policy, and researchⁱ.

To help dismantle the disconnect, this article is aimed at showcase the real deficiency in public school infrastructure incorporating city planning measures in Bangkok. Here we show the under capacity and over capacity of public school infrastructure prevalent in each district of Bangkok with respect to

primary and secondary school going population.

2. Literature Review

Almost 50 years ago, Michael Teitz (1968) argued that urban public facility locational decisions were fundamentally distinct from private locational decisions thereby it was fundamentally concerned with determining the optimal site for public facilities, given both efficiency and equity constraints.ⁱⁱ The evolution and legacy of these ideas in human geography, however, have not been systematically addressed. These governmental systems are functionally and hierarchically delimited by regions. Decisions concerning public facility systems are neither subject to competitive price structures nor necessarily quantifiable. Thus, ‘without monetarily quantifiable benefits, we are inevitably forced to consider in detail the distributional consequences of an outcome both over space and over population groups’ⁱⁱⁱ. There is widespread belief that the American public educational system is failing to meet the needs of all students, especially those in urban centers^{iv}. Facing poor-quality city schools, families with resources flee central cities for suburban schools or simply opt out to private schools. They leave urban schools with fewer resources, material or intellectual, to serve communities of increasing levels of concentrated poverty. These demographic shifts are causing an unprecedented rate of racial and economic segregation in our public schools^v.

City prospects are greatly impacted by these trends, with perceptions of low quality schools

quite often leading the list of concerns about urban life. Increasing student numbers place a strain on school facilities—in regards to both capacity and wear. The need for upgrading and expanding the nation’s public school infrastructure has been described as a “crisis.” It appears inevitable that there will be land use and planning conflicts at local levels as states and school districts move to build more schools. However, the planning field has largely ignored school planning; leaving it solely the responsibility of school districts, when, as Orfield (2002) shows, the location and quality of schools has a multitude of impacts on our urban areas. Schools impact neighborhoods, cities, and regions.^{vi} City officials realize that poor-performing schools hinder city revitalization efforts such as attracting and retaining businesses and middle-class families. Educators know that urban poverty concentration limits students’ academic performance. As public rhetoric continues to fault “failing urban schools,” the planning field must critically ask how planning decisions do and benefit or hurt local schools. We need to be concerned with the role of our public schools system—a social and physical infrastructure that is vital for the health of cities.

Breaking down the institutional and disciplinary barriers between city planning, education, and other related fields is necessary to improve both cities and schools. Governance work must develop the institutional frameworks to support joint planning. First, we need to create institutional linkages across fields and disciplines. Second, local “civic capacity”—the extent to

which different sectors of the community, from business to parents to local officials, educators, and others, mobilize around important issues—needs to be built to create a strong shared commitment and plan of action for improving public schools^{vii}. Third, the different disciplines must educate each other on their respective responsibilities and conceptions of what makes a quality school and what makes for quality cities^{viii}. In short, connecting cities and schools will require joint planning between planners and educators.

While many believe “we must fix the city schools before the city can make a comeback,” city schools need a great deal of help responding to the urban realities over which they have absolutely no control, especially poverty concentration in cities. Overall, two complimentary realities define the school infrastructure issue: (1) the quality of schools impact the prosperity of cities and (2) how cities change and develop impact the quality of schools. Therefore, the future quality of regions, cities, neighborhoods, and schools is intertwined^{ix}.

3. Research Methods

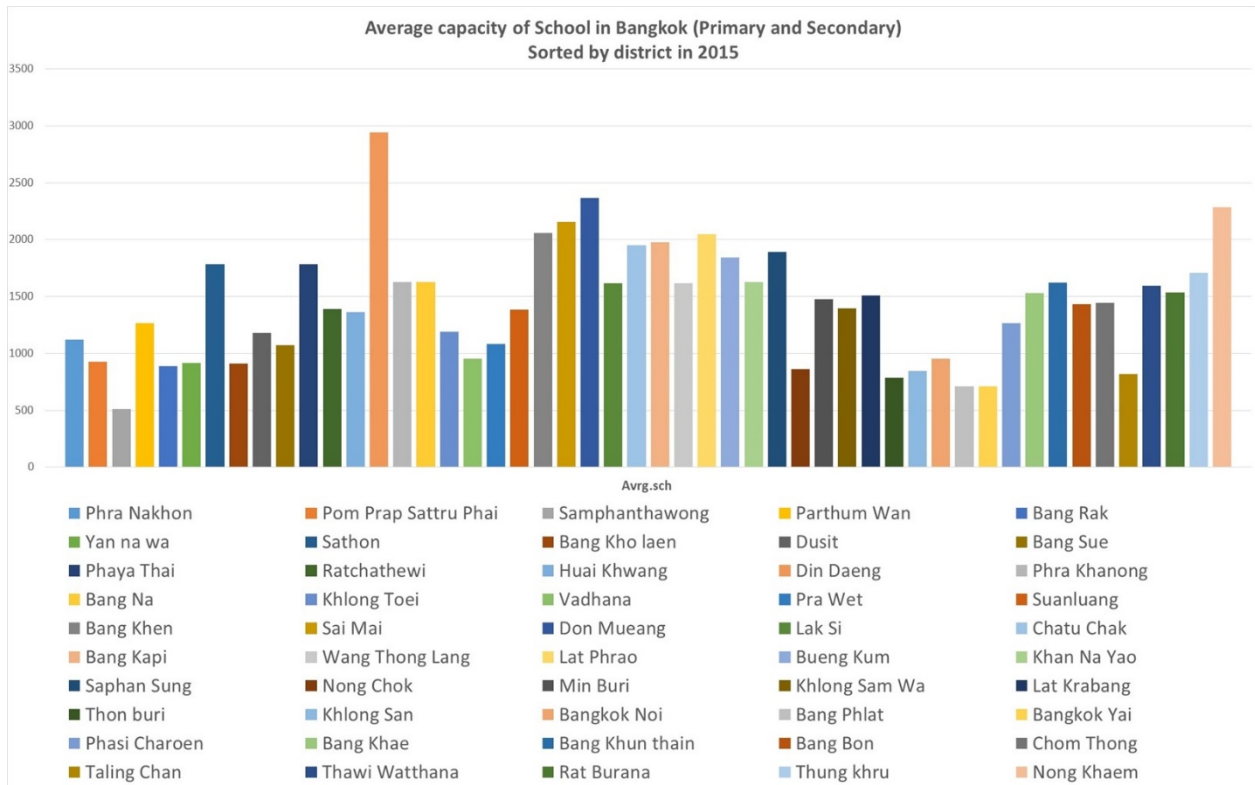
This study is surrounded on the primary and secondary public school facilities in each district of Bangkok. Secondary data obtained from various Thailand government agencies was used. Data used here included number of classrooms in each district as a whole through which total student capacity of the district was calculated as followed; Total number of classrooms* Total number of students in one class as allowed by the Office of the Basic

Education Commission, Ministry of Education, Thailand.^x Another data component is the total number of primary and secondary school going population (aged between 5-18 years) which was obtained from Ministry of Interior, Thailand.^{xi} This component was adjust through literacy rate as followed; Total primary and secondary school going population (1ged between 5-18 years) * Average literacy rate of Thailand as given UNESCO^{xii}. Total school going population was adjusted vie literacy rate as we did not want to account the population for public school facilities which does not want to or not even going to schools to avoid any discrepancies and get accurate illustrations of incapacity or overcapacity of public school facilities in each district.

Then Public School Infrastructure Deficiency (PSID) for each district was calculated by subtracting the total student capacity of a district from its total school going population. To avoid the criticism, Literacy rate adjusted public school infrastructure was also calculated as followed; Literacy rate adjusted total school going population – total student capacity of schools in a district.

4. Analysis & Results

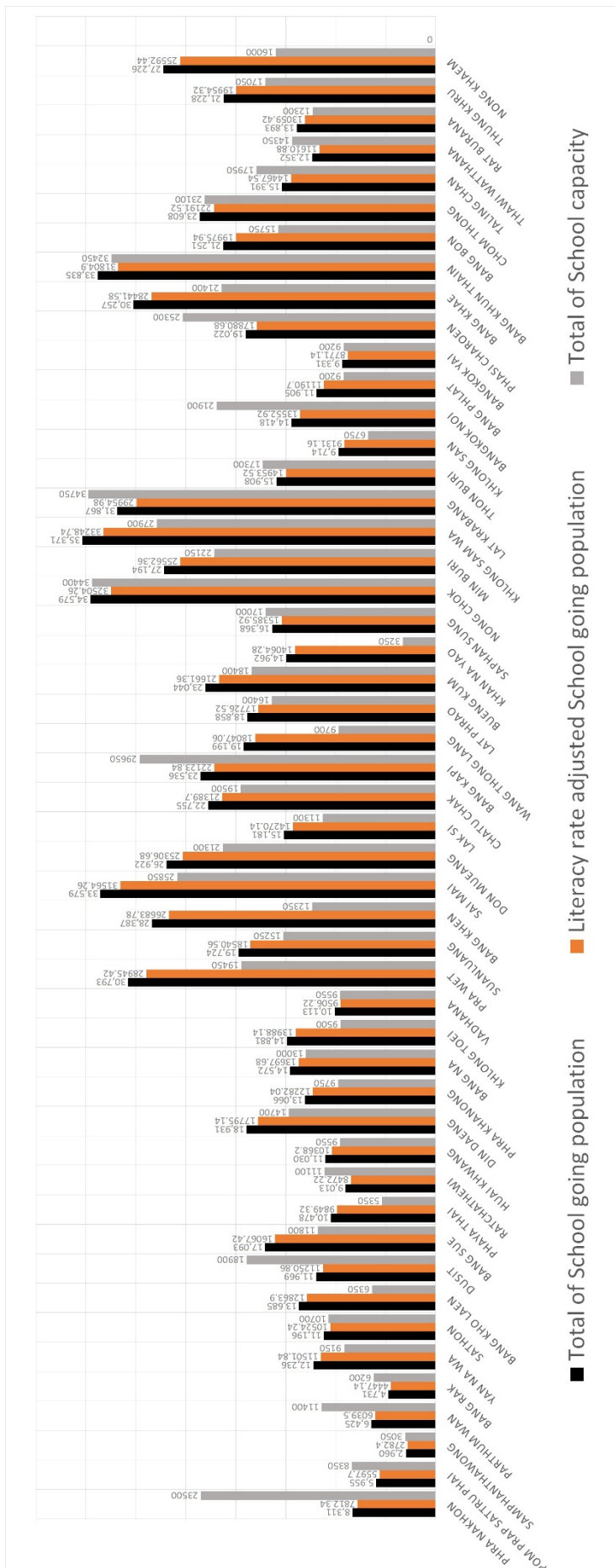
After using the formulas as discussed above, we obtained the results which elaborately show the current state of affairs in each district of Bangkok in terms of student capacity of public education facilities in each district of Bangkok. We also calculated the average capacity of a school in each district which is shown in the graph below.



Graph I: Average public school capacity in each district of Bangkok

To exhibit the overcapacity and under capacity of public school infrastructure in each district of Bangkok, we drew another illustrative graph which is more rich, compact and thorough in terms as given below. This graph has a separate bar section for each district having three bars thoroughly comparing the public school facilities and the total school going population. First bar among the three bar district section in the graph shows the total primary and secondary school going population (aged 5-18) in a district;

second bar in the separate district section represents the literacy rate adjusted school going population as some scholars may criticize the comparison of total school going population given some of the school going population do not intend to attend public schools or any schools. Third bar shows the total student capacity of primary and secondary public schools in a district. Each section allocated for a district compares the incapacity or overcapacity of public school facilities in every district of Bangkok giving a thorough information about city planning's disconnect with the education department or education policy makers.



Graph II: Comparison between Total school going population and total student capacity of each district in Bangkok

Public school infrastructure deficiency (PSID) and literacy adjusted public school infrastructure deficiency (LPSID) were also calculated for each district of Bangkok which show a positive or negative gaps; an illustration of positive for overcapacity and negative for under capacity of public school facilities with respect to targeted school going population. This is shown in Table 1 below.

DISTRICT	Public School Infrastructure Deficiency (PSDI)	Literacy rate adjusted Public School Infrastructure Deficiency (LPSDI)	DISTRICT	Public School Infrastructure Deficiency (PSDI)	Literacy rate adjusted Public School Infrastructure Deficiency (LPSDI)
Phra Nakhon	-15,189	-15687.66	Bang Kapi	-6,114	-7526.16
Pom Prap Sattru Phai	-2,395	-2752.3	Wang Thong Lang	9,499	8347.06
Samphanthawong	-90	-267.6	Lat Phrao	2,458	1326.52
Parthum Wan	-4,975	-5360.5	Bueng Kum	4,644	3261.36
Bang Rak	-1,469	-1752.86	Khan Na Yao	11,712	10814.28
Yan na wa	3,086	2351.84	Saphan Sung	-632	-1614.08
Sathon	496	-175.76	Nong Chok	179	-1895.74
Bang Kho laen	7,335	6513.9	Min Buri	5,044	3412.36
Dusit	-6,931	-7649.14	Khlong Sam Wa	7,471	5348.74
Bang Sue	5,293	4267.42	Lat Krabang	-2,883	-4795.02
Phaya Thai	5,128	4499.32	Thon buri	-1,392	-2346.48
Ratchathewi	-2,087	-2627.78	Khlong San	2,964	2381.16
Huai Khwang	1,480	818.2	Bangkok Noi	-7,482	-8347.08
Din Daeng	4,231	3095.14	Bang Phlat	2,705	1990.7
Phra Khanong	3,316	2532.04	Bangkok Yai	131	-428.86
Bang Na	1,572	697.68	Phasi Charoen	-6,278	-7419.32
Khlong Toei	5,381	4488.14	Bang Khae	8,857	7041.58
Vadhana	563	-43.78	Bang Khun thain	1,385	-645.1
Pra Wet	11,343	9495.42	Bang Bon	5,501	4225.94
Suanluang	4,474	3290.56	Chom Thong	508	-908.48
Bang Khen	16,037	14333.78	Taling Chan	-2,559	-3482.46
Sai Mai	7,729	5714.26	Thawi Watthana	-1,998	-2739.12
Don Mueang	5,622	4006.68	Rat Burana	1,593	759.42
Lak Si	3,881	2970.14	Thung khru	4,178	2904.32
Chatu Chak	3,255	1889.7	Nong Khaem	11,226	9592.44

Table 1: Public School Infrastructure Deficiency (PSDI) and Literacy rate adjusted PSDI

5. Discussion & Conclusion

As shown in the Table 1, PSDI and LPSDI have both negative and positive values whereas positive values account for overcapacity of public school facilities while negative values show under capacity of public schools for particular district in Bangkok. There dire need to reevaluate the public school location decisions as

it seems population trends in different districts are not taken into account while provision of such education facilities been decided. Some of the districts for instance Pra wet, Bang khen, Wang thong lang, Khan na yao and Nong Khaem with an over capacity of 11343, 16037, 9499, 11712 and 11226 respectively while others for instance Pra nakhon, Dusit, Bang

kapi, Bangkok noi and Phasi charoen face acute deficiency of 15189, 6931, 6114, 7482 and 6278 respectively. None of the districts have optimum number of public school facilities which shows a profound disconnect between city planning and education department. So there is dire need to reinvigorate the relationship and construct a way of cross-pollination between most important fields to have a vigorous identification and rejuvenation of policy metrics for the future development of Metropolis of Bangkok.

6. References

- ⁱ Vincent, J. M. 2006: Public Schools as Public Infrastructure: Roles for Planning Researchers. *Journal of Planning Education and Research* 25:433-437
- ⁱⁱ DeVerteuil, G. 2000: Reconsidering the legacy of urban public facility location theory in human geography. *Progress in Human Geography* 24,1 (2000) pp. 47-69
- ⁱⁱⁱ Teitz, M.B. 1968: Toward a theory of public facility location. *Papers of the Regional Science Association* 21, 35-51.
- ^{iv} Noguera, P.A. 2003. *City schools and the American dream*. New York: Teachers College Press.
- Rothstein, R. 2004. *Class and schools: Using social, economic, and educational reform to close the black-white achievement gap*. Washington, DC: Economic Policy Institute.
- ^v Frankenberg, E. and Lee, C. 2002. *Race in American public schools: Rapidly resegregating school districts*. Cambridge, MA: The Civil Rights Project, Harvard University.
- Orfield, G. and Lee, C. 2005. *Why segregation matters: Poverty and educational inequality*. Cambridge, MA: The Civil Rights Project, Harvard University.
- ^{vi} Orfield, M. 2002. *American metro politics: The new suburban reality*. Washington DC: Brookings Institution.
- ^{vii} Stone, C.N., Jeffrey R.H., Bryan D.J. and Pierannunzi, C. 2001. *Building civic capacity: The politics of reforming urban schools*. Lawrence: University Press of Kansas.
- ^{viii} McKoy, D. L. and Vincent, J. M. 2005. The Center for Cities & Schools: Connecting research and policy agendas. *Berkeley Planning Journal* 18: 57-77.
- ^{ix} Rusk, D. 2005. A tale of two cities. *Getting Smart: The Newsletter of the Smart Growth Network* 8 (2): 1-3.
- ^x Ministry of Education
Office of the Basic Education Commission
The criteria for determining the number of students per teacher per class are as follows.
Number of students per class
Ratio (Secondary) Teacher: Student = 1: 20
Number of students: Room = 40: 1
Number of Teachers = Number of Classrooms x (Number of Students: Room) / Number of Teachers: Students = Number of Classrooms x 2
Number of Administrative Teachers
- 121 - 359 students could have 1 Administrative Teacher.
- 360 - 719 students could have 1 Administrative Teacher with, 1 assistant
- 720 - 1,079 students could have 1 Administrative Teacher with 2 assistants
- 1,080 - 1,679 students could have 1 Administrative Teacher with 3 assistants
- 1,680 students or more could have 1 Administrative Teacher with 4 assistants
Condition
- To calculate Number of Classrooms (Number of students per classroom/number of students)
In each level of there are more than 10 students exceeded, have to open 1 more classroom
- To calculate number of teacher if after calculating if there is up to 0.5 should be

rounded half up to 1 round, if not should
be rounded half down)

^{xi} Division of Registration Technology
Development and Administration (RTDA)
The Bureau of Registration Administration
(BORA) Ministry of Interior Thailand.

^{xii} UNESCO Institute for Statistics