



FINANCE & OPERATIONS COMMITTEE OF THE WHOLE

TUESDAY, FEBRUARY 16, 2021
10:30 to noon
via zoom

Mandate:

To discuss and make recommendations to the board on financial matters and matters pertaining to facilities, maintenance, technology and transportation.

AGENDA

Facilitator: Trustee Flynn

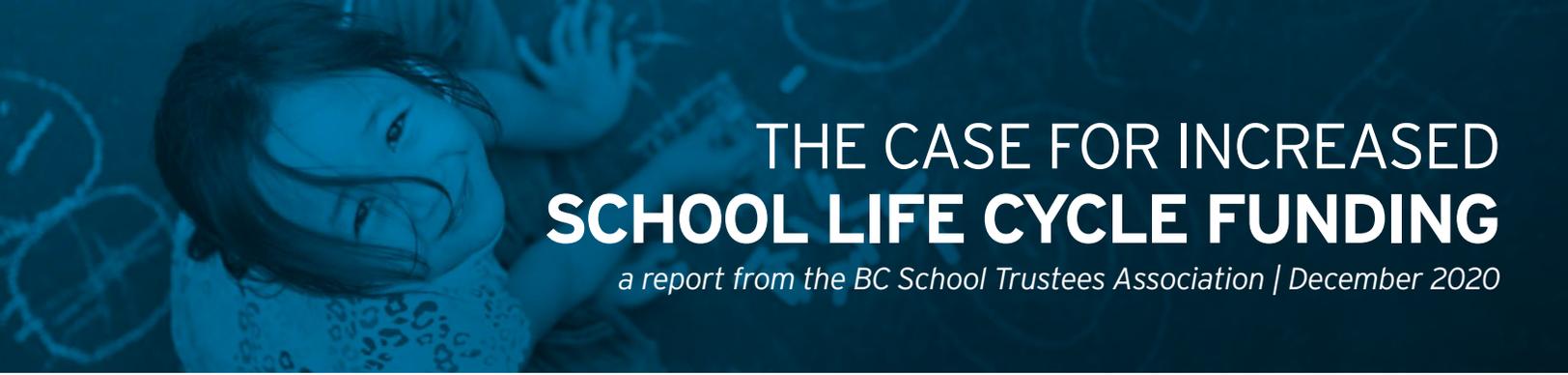
Join Zoom Meeting

<https://sd69-bc-ca.zoom.us/j/6366023344?pwd=Sml0c0JOaEU2WnZFRk45M3FTVHVuZz09>

Meeting ID: 636 602 3344

Passcode: 393760

1. **ACKNOWLEDGEMENT OF TRADITIONAL TERRITORIES**
2. **PRESENTATION**
3. **PROJECT UPDATES**
 - a. Oceanside Community Track at Ballenas (Elaine)
 - b. Arrowview Elementary Child Care Project/Building (Chris)
4. **ITEMS FOR DISCUSSION**
 - a. Capital Planning Update (Ron/Chris)
 - b. IT Planning Update (Lesley)
5. **ITEMS FOR RECOMMENDATION TO THE BOARD**
 - a. Letter of Support - Increased School Life Cycle Funding (Eve) *attachment*
- b. **INFORMATION ITEMS**
- c. **FUTURE TOPICS**
- d. **NEXT MEETING DATE:**
Monday, April 19 at 10:30; Via Zoom
- e. **ADJOURNMENT**



THE CASE FOR INCREASED SCHOOL LIFE CYCLE FUNDING

a report from the BC School Trustees Association | December 2020

Introduction

Life cycle maintenance refers to the work which must be completed over the “life” of a building to ensure it remains in peak operating condition. A roof may need to be replaced a few times over the typical 50 to 60 year life of a public school building, as will mechanical and electrical systems. Structural and building envelope upgrading may also be required. This is not an exhaustive list but serves to provide examples of the type of work included in life cycle maintenance.

By all accounts B.C. schools suffer from an ever-increasing level of deferred life cycle maintenance. Several measures of this situation are offered in the following pages. One critical measure suggests the shortfall in 2020 needed to address deferred maintenance in the public school system is \$360M (see Figure 1, page 3).

The intent of this paper is to define the problem and make recommendations for consideration by government to correct the shortfall.

The context of these recommendations is also worthy of consideration given the need for economic recovery following the COVID-19 pandemic and the potential for significant infrastructure investments to fuel that recovery.

Premier Horgan’s November 2020 mandate letter to Minister of Education Jennifer Whiteside offers additional context. The letter directs the minister to “continue to invest in new and modernized schools, including focussing on meeting seismic requirements and climate change and energy efficiency standards as set out in our Clean BC plan.”

In 2020 the education routine capital program for schools totaled \$181M. By comparison the value of repairs and upgrades recommended by building system engineers engaged by the Ministry of Education was \$541M.

Summary of Recommendations

1. That a building life cycle plan be developed for each new public school facility at the time of construction including an indication of the annual contributions necessary to fully implement the plan over time.
2. That the Annual Facilities Grant (currently \$115M) be increased by:
 - a. inflation (currently roughly 2%), plus
 - b. an amount equivalent to the annual contribution necessary to implement the detailed life cycle plan for new buildings (roughly 3%) and
 - c. a minimum of 15% for “catch up” each year amounting to a minimum of \$139.5M in 2021/22, \$168.5M in 2022/23, \$203.6M in 2023/24, \$246M in 2024/25, etc., noting that annual increases should continue until the recommended deferred maintenance costs can be covered.
3. That School Enhancement Program funding (currently \$64M) be increased by:
 - a. inflation (currently roughly 2%) and
 - b. a minimum of 15% for “catch up” each year amounting to a minimum of \$75M in 2021/22, \$88M in 2022/23, \$103.2M in 2023/24 and \$121M in 2024/25, etc., noting that annual increases should continue until the recommended immediate deferred maintenance costs can be covered and
4. That the Carbon Neutral Capital Program be increased a minimum of 25% each year amounting to \$20.9M in 2021/22, \$26.1M in 2022/23, \$32.6M in 2023/24, \$40.8M in 2024/25 .
5. That the provincial government carry out the required research to identify appropriate technologies and determine the funding required to achieve provincial government energy conservation objectives for existing public buildings outlined in the Clean BC program; and further, that the provincial government work with the federal government to provide the necessary funding to achieve those objectives.
6. That the need for more up-to-date learning environments to support student success and the level of accumulated deferred maintenance both be given greater consideration in the decision-making process about whether to complete major renovations or replace school buildings as they approach the end of their useful life.

Background

Deferred Maintenance

Figure 1 (below) identifies historic routine capital program allocations, deferred maintenance recommended within 1 year, deferred maintenance recommended within 5 years, and the change in the average provincial facility condition index (FCI) of school facility assets.

The listed capital programs in Figure 1 include the Annual Facilities Grant (AFG), the Carbon Neutral Capital Program (CNCP), the School Enhancement Program (SEP) and the Building Envelope Program (BEP) all of which contribute to addressing facility life cycle maintenance requirements. It will be noted Figure 1 captures a long term trend toward poorer conditions in school buildings, along with a growing estimate of unfunded immediate deferred maintenance costs (a \$360M shortfall in 2020).

Year	EDUC Routine Capital Program Allocations (AFG, BEP, CNCP, SEP)	Immediate Deferred Maintenance (Cost of repairs and upgrades recommended within 1 year)	Total Deferred Maintenance (Cost of repairs and upgrades recommended within 5 years)	Average Provincial FCI - New Condition (0.00) to Very Poor Condition (1.00)
2020	\$181M	\$541M	\$7.94B	0.47
2019	\$169M	\$591M	\$7.64B	0.44
2018	\$170M	\$396M	\$6.70B	0.43
2017	\$155M	\$343M	\$6.28B	0.43
2016	\$172M	\$332M	\$6.26B	0.42
2015	\$152M	\$305M	\$6.09B	0.42
2014	\$98M	\$296M	\$5.98B	0.41
2013	\$98M	\$254M	\$5.41B	0.38
2012	\$96M	\$236M	\$5.38B	0.37

figure 1 - Source: Ministry of Education

Capital Maintenance Project Requests/ Allocations

Figure 2 (below) documents shortfalls in each of several capital programs over the past five years.

The number of projects and funding for requests beyond the actual number of projects and funding provided by the ministry are reported for

- the Carbon Neutral Capital Program (CNCP),
- the School Enhancement Program (SEP),
- the Bus Acquisition Program (BUS) and
- the Playground Equipment Program (PEP).

All of these programs indicate the inadequacy of current levels of funding. Full program descriptions are available [here](#).

Unlike other programs listed in Figure 2, the Annual Facilities Grant is based on what is provided to districts by formula. Districts seek approval from the ministry on how they intend to use their AFG allocation. The best indication of an AFG shortfall is that provided in Figure 1. Figure 3 (page 5) provides another indication of less than adequate AFG funding.

The Building Envelope Program (BEP) identified in Figure 1 is not listed in Figure 2. We are advised the annual funding provided for this program amounts to approximately \$10M each year and is intended to address building envelope issues arising during the “leaky condo” years and will be phased out over time as they are addressed. Some additional funding for this purpose has been provided through litigation.

figure 2 - Source: Ministry of Education

2020/21

AFG	2993 projects submitted in district spending plans, \$113.5M total allocated
BUS	165 project requests valued at \$24.2M. 101 projects approved for \$14.6M.
CNCP	124 project requests valued at \$40M. 67 projects approved for \$16.7M.
PEP	137 projects requests valued at \$12M. 40 projects approved for \$5M.
SEP	413 project requests valued at \$207.8M, 164 projects approved for \$64M

2019/20

AFG	2768 projects submitted in district spending plans, \$113.5M total allocated
BUS	148 project requests valued at \$21.8M. 87 projects approved for \$12.8M.
CNCP	112 project requests valued at \$36.3M. 19 projects approved for \$5M.
PEP	146 requests valued at \$14M. 50 projects approved for \$5M.
SEP	431 requests valued at \$219.5M. 138 projects approved for \$65M.

2018/19

AFG	2605 projects submitted in district spending plans, \$113.5M total allocate
BUS	123 project requests valued at \$16.M. 93 projects approved for \$13M.
CNCP	90 project requests valued at \$26.5M. 19 projects approved for \$5M.
PEP	158 project requests valued at \$15M. 51 projects approved for \$5M.
SEP	415 project requests valued at \$145M. 175 projects approved for \$65M.

2017/18

AFG	2704 projects submitted in district spending plans, \$108.5M total allocated
BUS	134 project requests valued at \$16.2M. 73 projects approved for \$10M.
CNCP	91 project requests valued at \$30.6M. 15 projects approved for \$5M.
SEP	346 project requests valued at \$167M. 130 projects approved for \$55M.

2016/17

AFG	2123 projects submitted in district spending plans, \$108.5M total allocated
BUS	126 project requests valued at \$16M. 73 projects approved for \$10.8M.
CNCP	85 project requests valued at \$22.2M. 25 projects approved for \$5M.
SEP	462 project requests valued at \$277.3M. 146 projects approved for \$70M.

Annual Facility Grant

Figure 3 tracks changes in the Annual Facilities Grant since 2002 indicating increases in that specific area of funding have risen by far less than inflation even though capital costs have risen significantly during that same period. The number of buildings in the system has also increased since 2002.

figure 3 - Source: Ministry of Education

2002/03.....	\$100.0M
2003/04.....	\$100.7M
2004/05.....	\$110.0M
2005/06.....	\$110.0M
2006/07.....	\$110.0M
2007/08.....	\$110.0M
2008/09.....	\$110.7M
2009/10.....	\$56.0M
2010/11.....	\$54.0M
2011/12.....	\$110.0M
2012/13.....	\$110.5M
2013/14.....	\$110.5M
2014/15.....	\$110.5M
2015/16.....	\$110.5M
2016/17.....	\$110.5M
2017/18.....	\$115.5M
2018/19.....	\$115.5M
2019/20.....	\$115.5M
2020/21.....	\$115.5M

Compare these figures to the worsening facility condition index reported in Figure 1 and the basis of the problem becomes clear.

The result of underfunding public school life cycle funding is that many BC schools suffer from poor life cycle maintenance, looking and feeling tired, and creating less than ideal learning conditions.

As important, they cost more to operate than they should, taking money away from student educational resources. Fairly straight forward energy efficiency upgrades can redirect hundreds of thousands of dollars back into education operating budgets in addition to helping achieve the climate change targets established by the province.

It can be said districts and government do a reasonable job of ensuring schools are safe which is a clear priority. The only exception may be those schools for which recommended seismic upgrading has not yet been completed. To their credit government has identified seismic retrofitting as a priority. Unfortunately, government and the boards of education involved in addressing this situation seem to be having some difficulty catching up to the problem, especially since seismic survivability standards appear to be increasing. Keeping up to the need for capital funding for new schools and additions on top of the seismic upgrade program has been extremely challenging. Despite this Government has made substantial attempts to address these issues with increased funding as noted in Figure 4.

	B2018	B2019	B2020
SEISMIC	126M	220M	310M
NEW & ADDITION	102M	166M	332M

figure 4 - Source: Ministry of Education

A few school replacements are also being funded which will have an impact on the facility condition index as very old schools are fully replaced. The amounts provided over the past three years for full building replacements are \$9.8M in 2018, \$31.4M in 2019 and \$56M in 2020.

All three of these areas of funding are important and although they are not the subject of this discussion paper we must assume plans have been developed which define the level of funding required to complete necessary seismic upgrades and construct new schools to keep pace with growth in the system. If detailed plans have not been developed for seismic upgrading and new school construction they should be to ensure adequate funding can be made available when required. Having said that it is apparent that significant increases in funding for both categories have been provided over the past three years which indicates a recognition by government of the need.

While these needs are being more appropriately addressed we cannot forget the amount of funding required to address deferred maintenance in existing buildings. New schools and seismic upgrading are both needed. They tend to enjoy a higher profile than maintenance projects in existing schools. However, the latter are equally important if we are to fulfill our responsibility as trustees of important public assets.

The data provided by the ministry illustrates a growing level of deferred maintenance and the degree to which we are failing in this responsibility.

How deferred maintenance is calculated

In Figure 1 immediate deferred maintenance refers to those projects which are recommended by the engineering firm engaged by MOE to complete facility condition assessments each year. While the projects included in those recommendations do not necessarily involve building systems that will fail in the next year, preventive maintenance is always better than reactive or crisis maintenance. Building systems need to be properly maintained before they fail.

Building condition assessments are completed by engineers who are specialists in this field. They rely upon their knowledge of building systems to know where the sweet spot is.....that place where an ounce of prevention avoids a pound of cure and where replacement is more cost effective than constant repairs. Deferred maintenance reflects the work these specialists indicate should be done which has not been done as a result of inadequate funding. It is appropriately a requirement of government that building condition assessments are completed so government can direct limited funding to the areas of greatest need. We commend government for that, however, identifying and not addressing other maintenance requirements must still be considered a shortfall.

The rules and standards have changed over the last fifty years.

Standards for health and safety have changed considerably over time with ever increasing and appropriate measures to address such issues as the use of asbestos many years ago, lead content in the water more recently and seismic survivability. The cost of energy has gone up considerably as well, demanding measures to become more efficient, not only to keep costs down but also to reduce green house gas emissions and, literally, save the planet. Government is now requiring that school buildings meet reasonable standards for energy efficiency reducing emissions by 50% from 2007 levels by 2030 and achieving net zero targets for new buildings by 2032. That is very appropriate and to be applauded as we consider the design of new schools, but what about our existing building infrastructure? It is not unusual for schools to be in service for over fifty years. How do we reduce the carbon footprint of buildings constructed that many years ago and ensure they are safe and efficient, not to mention providing positive learning environments for children?

How can we address the problem?

Boards of education have long expressed the concern that the annual allocation of capital funding to address deferred maintenance is inadequate. Figure 1 provides a relatively clear substantiation of that claim.

Many municipal governments have addressed this problem for their own facility infrastructure by developing life cycle plans at the point of constructing new buildings, identifying each building's life cycle costs well into the future and putting sufficient funding into a reserve each year to ensure the identified work can be addressed as it comes up in the plan. Roofs, mechanical and electrical systems all need to be replaced several times over the life of a building. In our very wet climate regular reviews and repair/replacement of building envelopes is another aspect of the ongoing work which needs to be addressed more than once during the life of a building.

Strata councils are required in legislation to have lifecycle plans which they are wise to implement to avoid surprise assessments as major issues arise. It is a preferred approach to set monthly strata fees at a level sufficient to accommodate everything in the plan rather than wait until something breaks down and requires an emergency repair or replacement and a somewhat unexpected assessment. An unanticipated \$10,000 bill, or greater, can be a significant blow to a family's budget, not to mention the disruption if replacement is left until something like a water line breaks.

Many commercial buildings operate this way as well with a portion of every lease payment for common costs allocated to life cycle projects.

The cost to address the reported shortfalls for school facility life cycle maintenance is significant (\$360M per year) and couldn't possibly be addressed all at once.

We have suggested other sources of funding that could be tapped in another paper of the BCSTA Capital Working Group ([School Site](#)

[Acquisition Charges - Issues and Solutions](#)). Implementing the recommendations offered in that paper would free up more capital funding over the long term. This is a long term problem and, we submit, requires a steady and considered long term approach to address the issue. If the recommended changes had been made in the years prior government could have saved \$42M in land acquisition

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costs in 2018 and similar amounts going forward. However, nothing we can suggest short of additional government funding will be sufficient to bring the entirety of public K-12 education infrastructure up to the desired level very quickly.

To begin we are suggesting that the ministry require a standardized life cycle plan be developed for every new school building that is constructed into the future.....and further....that an adequate annual contribution be added to the Annual Facilities Grant of the school district in which the facility is located to address the lifecycle needs of that building over time.

Ideally school districts would work backwards and create such plans for all their existing buildings and apply to the ministry for the annual funding required to sustain the overall building life cycle plan. That is likely unrealistic given the increased amount of funding required as indicated by the high number of requests made and relatively few which are approved. In 2019/20 the amount allocated by the province to lifecycle maintenance (the combination of AFG, SEP, CNCP and BEP) was \$181.5M against a recommended amount of \$541M. As noted earlier the recommended amount is derived from the work of building system engineers engaged by MOE to complete the facility condition assessment each year.

Ideally the annual allocation from the ministry would address the annual deficit (\$360M). Since that is unrealistic in the short term we are suggesting a gradual "catch up" to eventually achieve enough annual funding to meet existing building life cycle needs, concurrent with a new system of lifecycle planning and funding for new buildings as they come on board,

In summary we are recommending annual increases in the Annual Facilities Grant, the School Enhancement Program and the Carbon Neutral Capital Program until the total recommended level of funding required to complete recommended immediate deferred maintenance can be achieved.

The current AFG allocation in 2020/21 is \$115.5M. We are recommending that amount be increased each year with the addition of:

- the annual contribution identified as being required in new facility life cycle plans plus
- inflation (currently roughly 2%) plus
- a minimum of 15% beyond inflation intended to reduce the shortfall for existing buildings over time.

The investment made in constructing new schools and additions in 2020 was \$332M. In order to provide a rough estimate of the annual life cycle contribution required for new facilities we have anticipated that cost to be the initial capital cost divided by a fifty year life or \$6.6M. That can be roughly translated to 3% of the current

combined investment in AFG and SEP. The actual amount added to the system each year should be based on the specific lifecycle plans prepared for each building in the prior year. However, for the purposes of this paper and its recommendations we have simplified the calculation.

This formula would amount to AFG funding of approximately \$139.5 in 2021/22, \$168.5M in 2022/23, \$203.6M in 2023/24 and \$246M in 2024/25.

We are also recommending an annual increase in the School Enhancement Program (SEP). The SEP funding provided for 2020/21 is \$64M. We are recommending that amount be increased each year with the addition of:

- inflation (currently roughly 2%) plus
- a minimum of 15% beyond inflation intended to reduce the shortfall for existing buildings over time

This would amount to SEP funding of \$75M in 2021/22, \$88M in 2022/23, 103.2M in 2023/24 and \$121M in 2024/25.

Both of these programs would continue to increase using these formulas

beyond 2025 until the amount being budgeted is sufficient to address the deferred maintenance shortfall.

We have selected a 15% factor in our formula for "catch up" recognizing it will still take several years to do so. If the "catch up" provision was increased to 20% over \$500M would be available in 2025. A smaller "catch up" amount would extend the time needed to achieve the required level of funding and complete the required work.

"This is a long term problem and...requires a steady and considered long term approach to address the issue."

Facility upgrades to lower emissions

We must also consider the Carbon Neutral Capital Program. Expenditures in this program are often used to replace electrical, mechanical or other systems which need to be replaced in the regular course of completing life cycle maintenance. It only makes sense that completing upgrades to systems to make them more energy efficient would be completed at the same time.

There is another significant argument to be made for increased funding beyond the amount already provided in the Carbon Neutral Capital Program. Reduced

consumption generally means reduced operating costs, which can then be redirected to student achievement.

We are hoping the total amount of funding required to achieve the net zero targets established by the province for new buildings and improved efficiency for existing

buildings (50% reduced consumption by 2030) will be the subject of further investigation and recommendations by government and is beyond the scope of this paper. However, we do feel it is appropriate in the context of this discussion to suggest a minimal ramping up of the Carbon Neutral Capital Program. It can be seen in Figure 2 that funding requests for this work totalled 2.5 times the available funding in 2020. Total requests amounted to \$40M in 2020/21 while the available funding amounted to only \$16.7M.

We are concerned the amount of annual funding currently available in the Carbon Neutral Capital Program for public schools is significantly less than the amount required to achieve Clean BC objectives. We are recommending the annual allocation to the Carbon Neutral Capital Program be increased by 25% per year. At this point we do not know if that level of investment will be sufficient to achieve the goals of the Clean BC program. We do know that most districts have already completed the easiest upgrades beginning with lighting systems followed by more efficient Boiler and HVAC equipment as mechanical systems reach the end of their life expectancy. What remains are projects which will be needed to achieve the Clean BC goals by 2030. They are very likely to be more complex and expensive as conversions from traditional to more innovative systems using alternative clean energy sources are contemplated. We are recommending CNCP allocations over the next four years should be \$20.9M

in 2021/22, \$26.1M in 2022/23, \$32.6M in 2023/24 and \$40.8M in 2024/25. These increases are considered to be the minimum required. A more detailed analysis on what it will take to achieve Clean BC goals by 2030 may indicate the need for even greater resources. We are also recommending that analysis be undertaken by the provincial government as soon as possible.

Of course Initial capital funding for new buildings should be based on achieving as close to net zero emission targets as possible going forward, leading to new buildings fully achieving the net zero target by 2032.

Access the Clean BC program details [here](#).

Renovate or replace?

Many districts and the Ministry of Education face difficult decisions as schools approach the end of their useful life (fifty to sixty years of service) and encounter the need to complete relatively costly seismic upgrades and building system upgrades if they are to continue safely accommodating students in those facilities.

The dilemma is that schools built so many years ago often do not include the kind of learning environments we want to offer to students. For example most older secondary schools do not include the kind of trades and technical training facilities which are commonplace in modern secondary schools. Most older elementary schools do not provide the kind of break out space needed for Education Assistants to work one on one with students who have specialized needs, resulting in hallways filled with EAs and their assigned students when working in regular classrooms is not appropriate.

Unfortunately in the process of making capital submissions for older facilities to the Ministry of Education many school districts have experienced a direction from government to plan for the least expensive solution which will ensure student safety and meet basic building system requirements. This is often occurring without adequately addressing the needs of students. With that the case we are recommending that decisions concerning whether or not to complete major upgrades or replace older buildings which have effectively reached the end of their useful life (50 to 60 years) include greater consideration of the changing learning needs of students. Full replacement may cost more than renovations in the short term but will often be more educationally effective and justifiable given a longer term perspective.

Moreover, all of the deferred maintenance of an older facility being considered for renovation must be considered in the calculation to determine the comparable costs of renovation vs replacement.

Conclusion

Building new schools and additions as our student population grows is important as is completing seismic upgrades to ensure our buildings are survivable in the event of an earthquake. With that said ensuring regular, appropriately timed life cycle maintenance on all school facilities is equally necessary to fully achieve our goal of providing safe and efficient school facilities which provide excellent learning environments for children. Accomplishing that can only be achieved with adequate annual funding provided by government. We have offered several recommendations along with a formula which should be used to catch the system up to address the ever increasing levels of deferred maintenance currently being experienced by school districts in British Columbia, and urge consideration of those recommendations and the proposed formula by government.

BCSTA wishes to express its appreciation to BC Ministry of Education staff for the provision of critical background information.

This discussion paper was developed by the BCSTA's Capital Working Group. Members of the working group include:

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