PLANNING & DEVELOPMENT
808 W. SPOKANE FALLS BLVD.
SPOKANE, WASHINGTON 99201-3343
509.625.6300
FAX 509.625.6822
spokaneplanning.org

April 24, 2018

President Dellwo and Plan Commissioners
City of Spokane Plan Commission

Re: Proposed Amendments to DTC-100 Bonus Heights

Dear President Dellwo and Plan Commissioners,

Please accept this packet of emails and letters into the record as part of your consideration of proposed amendments to Spokane Municipal Code 17C.124.220, Heights and Massing, as it relates to bonus heights in the DTC-100 zone. First, you will find enclosed an email from Commissioner John Dietzman wherein he provides his own quantitative analysis of the proposal as it relates to shading, bulk, and profitability. Second, I have included comment letters and emails we have received since the Staff Report was issued to you last Thursday. In one case the comment email referenced an online article on wind effects from tall buildings—I have included that article as well.

If we receive any additional comment letters or emails after this packet is submitted to you, I will bring printed copies for all the Plan Commissioners at the Hearing. Please don't hesitate to contact me if you have any questions. Thank you.

Sincerely,

Kevin Freibott
Assistant Planner II
Planning and Development
kfreibott@spokanecity.org
509.625.6184

Freibott, Kevin

From: Dietzman, John
Sent: Tuesday, April 24, 2018 1:35 PM
To: Freibott, Kevin
Cc: Trautman, Heather; Dellwo, Dennis; dadellwo@comcast.net
Subject: DTC-100 Update Analysis and Conclusions
Attachments: DTC-100 Update Analysis G.xlsx

Categories: Building Heights Comment

Kevin:

DTC-100 Update Analysis

I have worked up an analysis of the 12,000 sq ft floor plate, 75 foot separation, no height limit proposal agreed upon at our last PC workshop, compared to the current code. The primary issues about the proposed revisions to the DTC-100 code are: (1) the "bulking" of new buildings on Spokane Falls Blvd (SFB), (2) the profitability of such buildings, (3) shadowing of the park, and (4) the overall impact on these issues of having no height limit. In order to analyze the impact of development done under the proposed revisions compared to buildings built to the current code, I made an attempt to establish metrics that would quantify each issue.

(1) The profitability of the project: Generally, for buildings on a given piece of expensive land and for buildings of the height range currently common in Spokane, the more total square feet of floor area, the higher the profitability. Therefore, I choose the metric: **Profitability = Total floor area**

(2) **The "bulk" of the building**: As viewed from close up on Spokane Fall Blvd, (a) the tiered effect resulting from the current one story per 15' setback requirement may seem to reduce bulk, and (b) the height of the towers that will result from the proposed changes may seem to increase bulk. However, as viewed from a little distance such as in the Park, these effects fade and the bulk becomes more related to the total area of the walls facing Spokane Falls Blvd. Therefore, I choose the metric: **Bulk = Total facing wall area.**

(3) **The shadowing of the park:** From the shadowing studies: (a) the tiered design in the current code reduces shadowing part of the year, but this is difficult to quantify, and for the rest of the year the total height of the building controls shadowing, and (b) the gap between the proposed towers did reduce shadowing some part of the time but again was hard to quantify. The height of the building seemed to be the most important factor most of the year. Therefore, I choose the metric: **Shadowing = Total building height.**

(4) **The impact of no height limit**: A building height of 250 feet was the maximum chosen for the various shadowing studies. This is 50 taller than the 200 foot average height of the existing buildings in Spokane built with no height limit that were chosen for the comparison study. This is 38 feet less than the tallest building at 288 feet. Therefore, I choose as the metric to evaluate the **elimination of the height limit** = impact on bulk, profitability, and shadowing for a **250 foot building**.

I calculated these metrics for the current code (100' high base with 1 additional story for each 15' set back from SFB. assuming 5 additional stories as shown in the code example). I assumed a 10 foot spacing of the stories above the base, which is common for residential buildings, which yielded a total height of 150 feet for the current code building.

I then calculated these metrics for the following proposal cases:

(A) a 300' wide x 150' deep x 100' high base to represent the property between Washington and Stevens, with two 12,000 sq ft floor plate towers separated by 75 feet on this base, and

(B) a 169' wide x 150' deep x 100' high base to represent the property between Stevens and the existing building on the corner of Howard and SFB, with one 12,000 sq ft floor plate tower on this base.

A 10 foot floor spacing was assumed for the towers.

I also calculated that with tower floor plates of about 14,400 sq ft and a total height of 150 feet, the total floor area of the tower alternates would be the same as the 150 foot high current code tiered design.

The detailed results are shown in the attached spreadsheet. From this I concluded the following:

CONCLUSIONS

:

1. The tower-on-base design of a building with the same shadowing (150' height) and with the same total floor space (5 floor plates of about 14,400 sq ft each above the base) as compared to a tiered building, is superior because it has about 7% less bulk. Also, the construction cost may be less due to differences in the way a tiered structure must be built compared to a tower.

2. By reducing the tower floor plates to 12,000 sq ft, the number of tower floors has to increase by one (to 160 feet) to keep the total floor area equal to the tiered design. The bulk is still 7% less, and shadowing would increase by only 7%.

3. By adding 2 more 12,000 sq ft tower floors (to 180 feet), the bulk becomes equal to the tiered design, and the floor area and profitability increases by about 11% but at the expense of 20% more shadowing.

4. By adding 7 more 12,000 sq ft tower floors to attain a height of 250 feet, the floor area and profitability increases by about 50% compared to the 150 foot tiered building. This comes with the downside of about 29% more bulk and 67% more shadowing.

5. We have no clear idea from developers of the size of new buildings on Spokane Falls Blvd that would be profitable enough to spur development. However, the average height of comparable existing tall buildings in Spokane is 200 feet and the average floor plate is 13,000 sq ft. So the 12,000 sq ft floor plate design with a 250 foot or less height seems to be reasonably likely to be large enough to spur development.

John Dietzman
Spokane City Plan Commission

DTC-100 Restrictions: Case A

(Define the "bulk" of the building as the total area of the walls facing onto Spokane Falls Blvd.
(Define "profitability" as the total floor area)
(Define "Shadowing" as the total height of the building,
(Assume for the base in all cases a 25 foot high ground floor and five 15 foot high floors for a total height of 100 feet
*(Assume current regulation with, for every 15 foot setback, **one 10 foot high** story above the base, 5 additional stories. Assume a 75 x 270 floorplate = 20,250 ft2 for the top floor is economic*
*(Assume 2 towers on 300 x 150 x 100 high base with 12,000 square foot floorplates separated by 75 feet with **10 foot floor spacing**)*

CURRENT Height REG = 5 tiered floors, 10 FOOT FLOORS

Floor	Bulk area	frontage	side	floor plate	height
1	7500	300	150	45,000	25
2	4500	300	150	45,000	15
3	4500	300	150	45,000	15
4	4500	300	150	45,000	15
5	4500	300	150	45,000	15
6	4500	300	150	45,000	15
Base Total	**30,000**	**300**	**150**	**270,000**	**100**
7	2700	270	135	36,450	10
8	2700	270	120	32,400	10
9	2700	270	105	28,350	10
10	2700	270	90	24,300	10
11	2700	270	75	20,250	10
Upper Total	**13,500**	**270**		**141,750**	**50**
Total	**43,500**			**411,750**	**150**

PROPOSAL: Same AREA, 12,000 Ft2, 75' Separation, 10' FLOORS

Floor	Bulk area	frontage	side	floor plate	height
1	7500	300	150	45,000	25
2	4500	300	150	45,000	15
3	4500	300	150	45,000	15
4	4500	300	150	45,000	15
5	4500	300	150	45,000	15
6	4500	300	150	45,000	15
Base Total	**30,000**	**300**	**150**	**270,000**	**100**
7	1778	178	135	24,000	10
8	1778	178	135	24,000	10
9	1778	178	135	24,000	10
10	1778	178	135	24,000	10
11	1778	178	135	24,000	10
12	1778	178	135	24,000	10
Upper Total	**10,667**			**143,999**	**60**
Total	**40,667**			**413,999**	**160**
% of current	**93.5%**			**100.5%**	**106.7%**

PROPOSAL: Same BULK, 12,000 Ft2, 75' Separation, 10' FLOORS

Floor	Bulk area	frontage	side	floor plate	height
1	7500	300	150	45,000	25
2	4500	300	150	45,000	15
3	4500	300	150	45,000	15
4	4500	300	150	45,000	15
5	4500	300	150	45,000	15
6	4500	300	150	45,000	15
Base Total	**30,000**	**300**	**150**	**270,000**	**100**
7	1778	178	135	24,000	10
8	1778	178	135	24,000	10
9	1778	178	135	24,000	10
10	1778	178	135	24,000	10
11	1778	178	135	24,000	10
12	1778	178	135	24,000	10
13	1778	178	135	24,000	10
14	1778	178	135	24,000	10
Upper Total	**14,222**			**191,999**	**80**
Total	**44,222**			**461,999**	**180**
% of current	**101.7%**			**112.2%**	**120.0%**

PROPOSAL: Same Height, 12,000 Ft2, 75' Separation, 10 FOOT FLOORS

Floor	Bulk area	frontage	side	floor plate	height
1	7500	300	150	45,000	25
2	4500	300	150	45,000	15
3	4500	300	150	45,000	15
4	4500	300	150	45,000	15
5	4500	300	150	45,000	15
6	4500	300	150	45,000	15
Base Total	**30,000**	**300**	**150**	**270,000**	**100**
7	1778	178	135	24,000	10
8	1778	178	135	24,000	10
9	1778	178	135	24,000	10
10	1778	178	135	24,000	10
11	1778	178	135	24,000	10
Upper Total	**8,889**			**119,999**	**50**
Total	**38,889**			**389,999**	**150**
% of current	**89.4%**			**94.7%**	**100.0%**

PROPOSAL: 250 Ft High, 12,000 Ft2, 75' Separation, 10 FOOT FLOORS

Floor	Bulk area	frontage	side	floor plate	height
1	7500	300	150	45,000	25
2	4500	300	150	45,000	15
3	4500	300	150	45,000	15
4	4500	300	150	45,000	15
5	4500	300	150	45,000	15
6	4500	300	150	45,000	15
Base Total	**30,000**	**300**	**150**	**270,000**	**100**
7	1778	178	135	24,000	10
8	1778	178	135	24,000	10
9	1778	178	135	24,000	10
10	1778	178	135	24,000	10
11	1778	178	135	24,000	10
12	1778	178	135	24,000	10
13	1778	178	135	24,000	10
14	1778	178	135	24,000	10
15	1778	178	135	24,000	10
16	1778	178	135	24,000	10
17	1778	178	135	24,000	10
18	1778	178	135	24,000	10
19	1778	178	135	24,000	10
20	1778	178	135	24,000	10
21	1778	178	135	24,000	10
Upper Total	**26,667**			**359,998**	**150**
Total	**56,667**			**629,998**	**250**
% of current	**130.3%**			**153.0%**	**166.7%**

PROPOSAL: Same Height, 14,175 Ft2, SAME AREA, 75' Sep, 10' FLOORS

Floor	Bulk area	frontage	side	floor plate	height
1	7500	300	150	45,000	25
2	4500	300	150	45,000	15
3	4500	300	150	45,000	15
4	4500	300	150	45,000	15
5	4500	300	150	45,000	15
6	4500	300	150	45,000	15
Base Total	**30,000**	**300**	**150**	**270,000**	**100**
7	2100	210	135	28,350	10
8	2100	210	135	28,350	10
9	2100	210	135	28,350	10
10	2100	210	135	28,350	10
11	2100	210	135	28,350	10
Upper Total	**10,500**			**141,750**	**50**
Total	**40,500**			**411,750**	**150**
% of current	**93.1%**			**100.0%**	**100.0%**

DTC-100 Restrictions: Case B

(Define the "bulk" of the building as the total area of the walls facing onto Spokane Falls Blvd.
(Define "profitability" as the total floor area)
(Define "Shadowing" as the total height of the building,
(Assume for the base in all cases a 25 foot high ground floor and five 15 foot high floors for a total height of 100 feet
*(Assume current regulation with, for every 15 foot setback, **one 10 foot high story** above the base and 5 additional stories. Assume a 75 x 270 floorplate = 20,250 ft2 for the top floor is economic*
*(Assume **1 tower on 169x 150 x 100 high base with 12,000 square foot floorplates** and **10 foot floor spacing)***

CURRENT Height REG = 5 tiered floors, 10 FOOT FLOORS

Floor	Bulk area	frontage	side	floor plate	height
1	4225	169	150	25,350	25
2	2535	169	150	25,350	15
3	2535	169	150	25,350	15
4	2535	169	150	25,350	15
5	2535	169	150	25,350	15
6	2535	169	150	25,350	15
Base Total	**16,900**	**169**	**150**	**152,100**	**100**
7	1390	139	135	18,765	10
8	1390	139	120	16,680	10
9	1390	139	105	14,595	10
10	1390	139	90	12,510	10
11	1390	139	75	10,425	10
Upper Total	**6,950**	**139**		**72,975**	**50**
Total	**23,850**			**225,075**	**150**

PROPOSAL: Same AREA, 12,000 Ft2, 10 FOOT FLOORS

Floor	Bulk area	frontage	side	floor plate	height
1	4225	169	150	25,350	25
2	2535	169	150	25,350	15
3	2535	169	150	25,350	15
4	2535	169	150	25,350	15
5	2535	169	150	25,350	15
6	2535	169	150	25,350	15
Base Total	**16,900**	**169**	**150**	**152,100**	**100**
7	889	89	135	12,000	10
8	889	89	135	12,000	10
9	889	89	135	12,000	10
10	889	89	135	12,000	10
11	889	89	135	12,000	10
12	889	89	135	12,000	10
Upper Total	**5,333**	**89**		**71,999**	**60**
Total	**22,233**			**224,099**	**160**
% of current	**93.2%**			**99.6%**	**106.7%**

PROPOSAL: Same BULK, 12,000 Ft2, 10 FOOT FLOORS

Floor	Bulk area	frontage	side	floor plate	height
1	4225	169	150	25,350	25
2	2535	169	150	25,350	15
3	2535	169	150	25,350	15
4	2535	169	150	25,350	15
5	2535	169	150	25,350	15
6	2535	169	150	25,350	15
Base Total	**16,900**	**169**	**150**	**152,100**	**100**
7	889	89	135	12,000	10
8	889	89	135	12,000	10
9	889	89	135	12,000	10
10	889	89	135	12,000	10
11	889	89	135	12,000	10
12	889	89	135	12,000	10
13	889	89	135	12,000	10
14	889	89	135	12,000	10
Upper Total	**7,111**	**89**		**95,999**	**80**
Total	**24,011**			**248,099**	**180**
% of current	**100.7%**			**110.2%**	**120.0%**

PROPOSAL: Same Height, 12,000 Ft2, 10 FOOT FLOORS

Floor	Bulk area	frontage	side	floor plate	height
1	4225	169	150	25,350	25
2	2535	169	150	25,350	15
3	2535	169	150	25,350	15
4	2535	169	150	25,350	15
5	2535	169	150	25,350	15
6	2535	169	150	25,350	15
Base Total	**16,900**	**169**	**150**	**152,100**	**100**
7	889	89	135	12,000	10
8	889	89	135	12,000	10
9	889	89	135	12,000	10
10	889	89	135	12,000	10
11	889	89	135	12,000	10
Upper Total	**4,444**	**89**		**59,999**	**50**
Total	**21,344**			**212,099**	**150**
% of current	**89.5%**			**94.2%**	**100.0%**

PROPOSAL: 250 Ft High, 11,000 Ft2, 10 FOOT FLOORS

Floor	Bulk area	frontage	side	floor plate	height
1	4225	169	150	25,350	25
2	2535	169	150	25,350	15
3	2535	169	150	25,350	15
4	2535	169	150	25,350	15
5	2535	169	150	25,350	15
6	2535	169	150	25,350	15
Base Total	**16,900**	**111**	**150**	**152,100**	**100**
7	889	89	135	12,000	10
8	889	89	135	12,000	10
9	889	89	135	12,000	10
10	889	89	135	12,000	10
11	889	89	135	12,000	10
12	889	89	135	12,000	10
13	889	89	135	12,000	10
14	889	89	135	12,000	10
15	889	89	135	12,000	10
16	889	89	135	12,000	10
17	889	89	135	12,000	10
18	889	89	135	12,000	10
19	889	89	135	12,000	10
20	889	89	135	12,000	10
21	889	89	135	12,000	10
Upper Total	**13,333**	**89**		**179,998**	**150**
Total	**30,233**			**332,098**	**250**
% of current	**126.8%**			**147.6%**	**166.7%**

PROPOSAL: Same Height, 14,595 Ft2, SAME AREA 10 FOOT FLOORS

Floor	Bulk area	frontage	side	floor plate	height
1	4225	169	150	25,350	25
2	2535	169	150	25,350	15
3	2535	169	150	25,350	15
4	2535	169	150	25,350	15
5	2535	169	150	25,350	15
6	2535	169	150	25,350	15
Base Total	**16,900**	**169**	**150**	**152,100**	**100**
7	1081	108	135	14,595	10
8	1081	108	135	14,595	10
9	1081	108	135	14,595	10
10	1081	108	135	14,595	10
11	1081	108	135	14,595	10
Upper Total	**5,406**	**108**		**72,974**	**50**
Total	**22,306**			**225,074**	**150**
% of current	**93.5%**			**100.0%**	**100.0%**

From: Jan WINGENROTH
To: Freibott, Kevin
Subject: Re: Notice of Hearing and SEPA Determination - Building Heights in DTC-100
Date: Saturday, April 21, 2018 10:14:29 AM
Attachments: image002.png
image003.png
image004.png
Removing height restrictions2.docx

Mr Freibott, I appreciate being notified regarding the dates and times of the Spokane Plan Commission meetings. I prefer to submit my comments in writing rather than speaking. I am attaching a copy of my comments and I will also paste a copy of the comments below.

I am writing to object to lifting the building height limits on Spokane Falls Boulevard. Dense development doesn't mean we should compromise the most attractive features of our city. A recent editorial in the *Spokesman-Review* stated that one third of our downtown is currently surface parking lots. If that's true, we have plenty of spaces available for development without requiring that Spokane change height requirements for the downtown area. I believe if the city and county continue to encourage increased residential density in Spokane's urban areas the vacancy rate in downtown business and residential structures will drop. This should result in demand for underutilized surface parking lots and decaying structures to be re-developed into commercial or residential building. When the business climate is right developers will doubtless take advantage of the Spokane Falls Boulevard lots to build commercial or residential structures within the current height restrictions.

Our downtown growth is dependent on downtown Spokane being an architecturally interesting, park centered, and walkable with recreational opportunities that attracts both residents and visitors. A city with huge towering structures on both sides of the street and several lanes of traffic speeding one direction isn't a pleasant walk. Tall towers lining a busy one-way street will do nothing to enhance downtown Spokane. Part of the aesthetic enjoyment of walking downtown is the size and variety of the buildings that make up our streetscape.

By their votes for park renovation and in the 2018 city survey regarding height restrictions Spokane residents overwhelmingly spoke. Citizens rated Riverfront Park as very important to downtown Spokane. A majority of those completing the city building height survey expressed their concern over removing the restriction on building heights. Furthermore, downtown Spokane has the new Grand Hotel across from the Convention

Center which allows us to preview what raising the height limitations might look like. While many of us admire the interior of the Grand Hotel I believe that many Spokane residents have been disappointed by the aesthetic of the exterior of the building and would **not** like to see building near this height or proportion continued along Spokane Falls Boulevard.

Yes, of course we want prosperity for our city, jobs, and a vibrant downtown, but we want the city of Spokane to distinguish itself with an aesthetically pleasing streetscape and a city park that is like no other. That may mean allowing market forces to take their course and slow sustainable growth in our urban core. Eventually downtown popularity and population density will reach the point that it's feasible to build quality buildings that meet current height restrictions along Spokane Falls Boulevard. In future years the natural features, recreational opportunities, and a pleasantly walkable city will be key to attracting visitors and new residents to downtown Spokane.

Thank you for your service to our city,

Jan Wingenroth

1417 S. Jefferson
Spokane 99203

Home (509) 624-6835 cell 509 863-8054

BOMA Spokane

04/23/18

Commissions President Dellwo and Members of the Plan Commissions,

On behalf of the Board of Directors and members of the Spokane Building Owners and Managers Association I wish to provide you a statement of support favoring the removal of height and mass restrictions on Spokane Falls Boulevard and as an alternative to removal altogether of restrictions, our endorsement of the largest possible floor plate option for the development of property in the DTC-100 of the downtown core.

As the owners, operators and maintainers of many of Spokane's commercial buildings, we know that when its financially viable, a larger floor plate allows developers to lower rents and bring in more tenants, so from a purely financial perspective, a larger floor plate equals a more viable and likely-to-be-built building.

But as residents of Spokane and users of Riverfront Park we also know that it is of vital importance to get something built at the Spokane Falls Boulevard surface parking lots. Because of the location of the underutilized parcels and the renewed market interest in downtown, we believe that they represent downtown's preeminent opportunity to build something great, something which inspires, which the community can be proud of.

For nearly a decade arbitrary height and mass restrictions have precluded development there on the unverifiable assertion that increased wintertime shadowing is detrimental to urban parks, but what is much more detrimental is underutilized land immediately adjacent to the park when it could be outstanding, modern urban architecture that serves as a basis for a variety of uses including residential. BOMA Spokane wants to see Riverfront Park be as successful as possible, and a critical contributor to that success can be, if it is allowed, large mixed use development as a neighbor. Beyond the park itself, development of these parcels can help bring growth and vitality to the downtown core, and may become a symbol of a resurgent, growing and dynamic region that attracts new businesses and keeps millennials here.

Thank you for your time.

Spencer Sowl

BOMA Spokane President

From: Carol
To: Freibott, Kevin
Cc: Carol
Subject: Shared from BBC News
Date: Tuesday, April 24, 2018 8:52:18 AM

---

http://www.bbc.com/news/magazine-33426889
Sent from Mail for Windows 10
Re: DTC 100 Zone/wind & chill effects from towers

Dear Spokane City Plan,

Please place height restrictions on any new buildings in the DC zone on Spokane Falls Blvd. across from the south side of Riverfront Park due to the wind & cooling effects described in this BBC 2015 story.

When I spoke with a member of the Growth Management Committee that was created by WA state law in the early 90's to manage Spokane growth, she mentioned this effect as a reason to regulate height across from Riverfront Park.

Magazine

The problem with the skyscraper wind effect

By Justin Parkinson
BBC News Magazine

9 July 2015

PA

Complaints about wind near the Walkie Talkie have prompted action by the City of London

The City of London is promising that high-rise buildings will be monitored to ensure they don't make conditions unbearably windy in surrounding streets. But why do skyscrapers have this effect and what can be done to alleviate it?

Anyone who has ever walked near a very tall building in the middle of a city on a windy day will have noticed a strange effect.

The wind is often much more intense around the base of the tower.

And the **growth in high-rise structures** is generating more concerns. The City of London Corporation has promised a more "rigorous" assessment of developers' predictions of ground winds, following **complaints about strong gusts** outside the 20 Fenchurch Street Building, better known as the Walkie Talkie.

"I almost got blown over the other day walking up past the building," a sales assistant working nearby said **earlier this year**. "When I got around the corner it was fine. I was scared to go back."

In today's Magazine

My heartbeat teaches me how to feel

The vetting files: How the BBC kept out 'subversives'

The holiday village run by spies

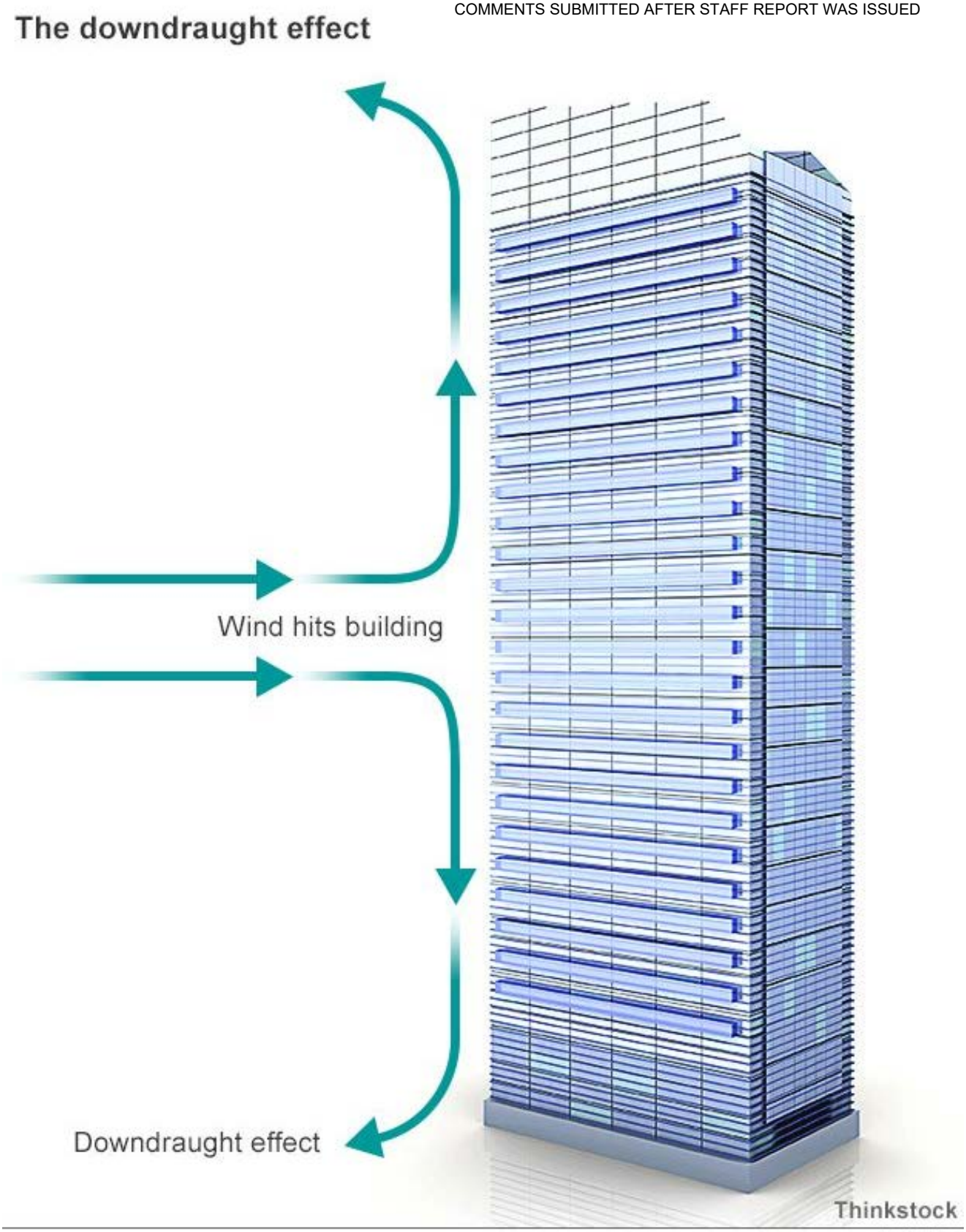
The mystery of the homesick mechanic who stole a plane

Dubai's Burj Khalifa, the world's tallest building, was tested for effects on ground winds

Toronto in Canada has suggested bringing in by-laws to ensure planning for skyscrapers takes into account the risk of street winds.

In Leeds, 35-year-old Edward Slaney was crushed after **strong winds toppled a lorry** near the 32-storey Bridgewater Place, the city's tallest building, in 2011. This was one of several incidents, some resulting in injuries, reported to the council.

Accelerated winds near skyscrapers are caused by the "downdraught effect", says Nada Piradeepan, an expert on wind properties at engineering consultancy firm Wintech. This happens where the air hits a building and, with nowhere else to go, is pushed up, down and around the sides. The air forced downwards increases wind speed at street level.



THINKSTOCK/BBC

This graphic is not an exact representation of the point at which wind hits buildings, but an illustration of the overall downdraught effect

There is also an acceleration of wind around the side of the buildings if it has

completely square corners.

And, if several towers stand near each other, there is an effect known as "channelling", a wind acceleration created by air having to be squeezed through a narrow space. This is a form of the **Venturi effect**, named after the 18th-19th Century Italian scientist Giovanni Battista Venturi.

"These different effects can combine to create faster-moving wind. It's complex," says Piradeepan. "The downdraught effect is most strong where buildings stand face-on to the prevailing wind, which in London is from the south west." More rounded buildings, such as **London's Gherkin**, don't have quite the same downdraught effect and don't encourage an increase in wind speed around them, as the air doesn't accelerate around corners, he adds.

A man died after winds next to Bridgewater place in Leeds toppled a truck

The City of London has fewer skyscrapers than New York but much of its layout is based on **medieval street patterns**. Its narrower roads mean it concentrates the wind through channelling more than happens in New York's generally wider streets and avenues, says architect Steve Johnson.

Architects test skyscraper designs in **wind tunnels** to ensure there would be no damage to structures. But the potential effect on people living and working

down below is becoming more of a focus for study, says Johnson.

Dubai's **Burj Khalifa**, the world's tallest building at 828m (2,716.5ft), underwent "micro-climate analysis of the effects at terraces and around the tower base" before opening in 2010.

In Toronto, the broadcaster Global News **measured gusts** of between 30kmph (18.6mph) and 45kmph (28mph) at one corner of the 55-storey Four Seasons Hotel. It detected wind speeds of just 5kmph (3.1mph) slightly north of the building.

As the air at higher altitudes is colder, it can create chillier micro-climates when downdraught from skyscrapers reaches street level. This can be welcome during hot spells, but less so in winter. And, as buildings go higher, **the speed of air hitting them rises**, increasing ground winds below.

Skyscraper-affected airflow is a relatively new phenomenon in cities like London and Leeds, which were mainly low-rise until recently.

This is not so in New York, where, more than a century ago, residents were complaining of the winds caused by the face of the **Flatiron building**, then considered tall at 93m (305ft). It was said to **lift women's skirts** above their ankles, attracting young men not used to such public exposure. In 1905, a salacious (for the time) film of this phenomenon was made.


COMMENTS SUBMITTED AFTER STAFF REPORT WAS ISSUED
ALAMY

Downdraught from New York's Flatiron building caused an ankle-revealing sensation

As long ago as 1983 in New York, engineering consultant Lev Zetlin called for **laws to counteract the effects** of buildings on street wind.

The City of London Corporation is not going this far, but it is changing the way it works with developers. The level of wind predicted by developers and that which actually occurs can differ "somewhat", says the corporation's head of design, Gwyn Richards. So there's going to be independent verification of studies carried out by developers to ensure they're as "rigorous and resilient" as possible, he adds.

The problem is that, where buildings causing downdraught problems have already been built at great expense, they can't simply be demolished.

Among the solutions on offer are screens to shield people from the wind at street level or even the use of more trees and hedges to break up air flow.

In Leeds, the city council last year granted permission for angled shelters near the base of Bridgewater Place, known as "baffles". But Lindsay Smales, senior lecturer in building, planning and geography at Leeds Beckett University, has said he **doubts much can be done** "once you've built a tall building like that to mitigate the problems of micro climate and the effect of the wind".

Concerns were raised over the proposed **15-storey Lumina tower block** in Birmingham and a **27-storey building in Manchester**, both of which gained planning permission last year.

As downdraught happens most where buildings are square-on to wind, would changing their angles be a good idea?

Johnson is inspired by the example of a far more low-rise place, the seaside resort of **Whitstable in Kent**, famed for its oyster trade and now home to offshore wind farms. Some of its street layout was designed to be at 45 degrees to the prevailing wind so that there's not such a wide section facing it, he says.

"None of these problems are new," Johnson says. "The ancient Greeks and Romans knew something about the effects of wind on buildings. It's just that, unlike today, they didn't try to build enormous skyscrapers."

Freibott, Kevin

From: Carol <carolellisspokane@hotmail.com>
Sent: Tuesday, April 24, 2018 10:02 AM
To: Freibott, Kevin; Stuckart, Ben; Beggs, Breean; Kinnear, Lori; Mumm, Candace; Fagan, Mike; Stratton, Karen; Burke, Kacey; Dellwo, Dennis
Cc: Carol
Subject: DTC-100 height restrictions

I advocate height restrictions in the DTC-100 downtown zone for 3 reasons:
1) 31.6% of the original survey respondents voted to keep the height restriction as is (100 feet, then stairstep floor area going up), to promote more sunlight & less wind and chill
38.7 % of the original respondents voted for the 11,000 sq feet towers, less than the 12,000 sq feet under consideration

2) height restrictions provide complimentarity for historic buildings in the zone on Spokane Falls Blvd. Complimentarity is a Planning document goal; policy needs to uphold it. Spokane's DTC-100 zone contains numerous historic buildings.

3) in the last 10 years more and more urban areas are increasing height restrictions. Vancouver, BC and New York City require reduced floor plates, as the Spokane code does now. Boise has residential height restrictions on the Boise State side of their river equal to residential heights. Minneapolis has height restrictions and preserves historic sites along their river.

Further, I propose streetscape improvements that benefit the public be required for any new building: not just plazas but green space or a pocket park, not just sidewalks but plantings and transit infra-structure. Central City Transit might be partially funded by development in that zone. Downtown Spokane might be included in funding.
Bicycle paths might be situated along Spokane Falls Blvd. by code amendments.

From: Jason Wong
To: Freibott, Kevin
Subject: RE: DTC-100 Spokane Falls Blvd - Additional Comment
Date: Tuesday, April 24, 2018 1:38:35 PM
Attachments: image002.png
image003.png
image004.png

Hi Kevin,

Thanks for pointing that out! I forgot about that requirement in the current DTC zoning code. Looking into it, the current language in the zoning code 17C.124.580.B.1 stipulates the open space must be near the main entrance of the building (which appears to imply it would be on the ground floor, just off the sidewalk).

For clarification, I'd propose the requirement for the **public open space to be on a higher floor** (like on top of the 80-100+ foot podiums of the building forms). The intent would be to provide public views to Riverfront Park (since the hypothetical taller buildings would take away views from buildings to the south). Imagine the current views of Riverfront Park from the top floor of City Hall, or from on top of the River Park Square garage. This would be the approximate view (a fantastic one!) that the public would experience from open space on a higher floor.

As far as the 1 sf per 100 sf of building area requirement I'd **at a minimum double that ratio to 2 sf for the parcels in question**. For a 20 story building at an avg of 13,000 sf/floor that would equate about 5,200 sf open space, which is a lot better than 2,600 sf under the current zoning. Also, with the prime real estate that these parcels are, the developments would probably be higher end and command higher lease rates for the developers. That should be able to offset any added costs for increased open space.

Thanks again,
Jason

From: Freibott, Kevin
Sent: Tuesday, April 24, 2018 13:49
To: Jason Wong
Subject: RE: DTC-100 Spokane Falls Blvd - Additional Comment

Good afternoon, Jason. Thanks for submitting your comment. I have a quick clarification question for you—the Downtown Zone standards (the currently adopted ones) require that any large building include 1 square foot of "public plaza" space for every 100 square feet of building floor area. Are you advocating for more than that in the DTC-100 Zone? Let me know and I will include this conversation in the file for the Plan Commission as well. Thanks and have a great day.

Kevin

Kevin Freibott | Assistant Planner | City of Spokane - Planning and Development Services
509.625-6184 | mailto:kfreibott@spokanecity.org | spokanecity.org | spokaneplanning.org

From: Jason Wong <jasonwong.architecture@gmail.com>
Sent: Tuesday, April 24, 2018 12:46 PM
To: Freibott, Kevin <kfreibott@spokanecity.org>
Subject: DTC-100 Spokane Falls Blvd - Additional Comment

Hi Kevin,

I've been participating in the online commenting period for the proposed building height changes DTC-100 zone. I got your email from a couple weeks ago requesting that any additional comments be sent to you before end of day today.

I do have one idea/proposal I'd like to add:

Spokane has strongly embraced its close proximity to nature as a selling point of the tourist and citizen experience. Part of this experience is Downtown's adjacency to Riverfront Park. It's literally the front porch of Downtown. We see this spirit of nature and open space extending through many recent projects such as Kendall Yards, Huntington Park, Howard Street South Channel Bridge, US Pavilion renovation, and the open spaces being built atop the new CSO tanks.

As Spokane and its Downtown continues to densify (and it will), I strongly believe it'll be important to implement measures today that will preserve and expand Spokane's spirit of nature and open space into the future. As density increases, open space opportunities will decrease and be harder to come by. Additionally, existing open spaces will become more crowded with people, hence the need for additional spaces.

So I'd like to propose that in exchange for building higher in this DTC-100 zone, developers must commit to providing and maintaining **Privately-Owned Public Open Space** access in their buildings. The idea is that anyone (such as an office worker on a lunch break) can access these spaces similar to a public park to enjoy the scenery and greenery. These public open spaces could be as simple as allowing public access to an outdoor roof terrace or indoor sky lobby. Or it could even be a garden-type environment in a ground floor lobby (though higher is better on these parcels for the views).

Given the nature of the proposed zoning change that permits towers to be built with spacing in between them, it seems very likely that new buildings on these sites will include roof terrace-type spaces (kind of like the terraces at the Davenport Grand or Historic Davenport). Therefore, this requirement of creating a public open space wouldn't have much, if any, added cost to the building or negatively impact its design much. It's biggest impact will probably be on the minor things such as building access strategy (elevator access, door locks, etc.).

Additionally, because these sites border Riverfront Park, the higher buildings will take away views to nature from buildings to the south. The intent of requiring public open spaces is to restore access to those views for the public.

San Francisco is a great precedent to reference for Privately-Owned Public Open Spaces.
Having worked in San Francisco for a couple of years of my career, I can personally attest to the benefit of having these open spaces in an urban environment. It is also important to note that in San Francisco, many of these open spaces have operating (not unlike how a park technically has operational hours). Most of them coincided with active hours of the day (7am-8pm, etc.). This should address any safety concerns of building owners and tenants. A link below provides more info to San Francisco's privately-owned public open space program/code:
http://sf-planning.org/privately-owned-public-open-space-and-public-art-popos

Thanks,
Jason Wong

Freibott, Kevin

From: Jane Cunningham <janecunningham29@gmail.com>
Sent: Tuesday, April 24, 2018 1:41 PM
To: Freibott, Kevin; Stuckart, Ben
Subject: Building heights on Spokane Falls. Blvd.

Categories: Building Heights Comment

Dear Mr. Freibott,

I never thought I was claustrophobic but I experienced it the first time I drove down- town and passed the Grand Hotel. I was horrified that plans were in the offing to have more tall buildings on the street next to our city's unique gem, Riverside Park and the Spokane River we've worked so hard and given so much in taxes to beautify and protect.

Our city doesn't need this. I worked many years on neighborhood planning and I think it doesn't show respect for the downtown plan. It doesn't fit with the open space of the Park, not to mention the shadow effect. I ask why taller buildings there, in a row more or less? "The Almighty Dollar!" Somebody or somebodies have given in to the construction-real estate people I have to think.

I'm passionately against taller buildings on Spokane Falls Blvd next to the Park.

Concerned citizen and voter.
Jane Cunningham