U-Link Montlake Tunnel Vibrations



1. Are you able to provide the street address of where you live or work in the Montlake neighborhood?

	Response Percent	Response Count
yes	100.0%	82
no	0.0%	0
	answered question	82
	skipped question	0

2. Have you at anytime since the end of August felt vibrations or heard sounds that seem to come from the ground or from your house itself?

		sponse ercent	Response Count
YES		76.8%	63
NO		23.2%	19
	answered qu	estion	82
	skipped qu	estion	0

3. Do you think these sounds or sensations are associated with the Sound Transit Tunneling project that is happening under the Montlake neighborhood?

	Response Percent	Response Count
Yes	93.8%	60
No	0.0%	0
Not sure	6.3%	4
	answered question	64
	skipped question	18

4. What times of day do you feel and or hear these vibrations and or sounds? (check all that apply)

	Response Percent	Response Count
mornings (7AM - noon)	57.4%	35
afternoons (noon - 5PM)	59.0%	36
evenings (5PM - 10PM)	82.0%	50
nightime (10PM - 7AM)	78.7%	48
	answered question	61
	skipped question	21

5. You indicated you hear and or feel these vibrations and or sounds at night. Please indicate this experience as best you can.

	yes	no	Response Count
wakes me from sound sleep	39.1% (18)	60.9% (28)	46
prohibits me from falling back asleep if I am up for some other reason	51.1% (24)	48.9% (23)	47
leaves me wondering if I'll be able to fall back asleep before the next one hits	46.8% (22)	53.2% (25)	47
wakes my children	7.7% (3)	92.3% (36)	39
causes anxiety in me or family members	60.0% (27)	40.0% (18)	45
affects my pet or pets	27.5% (11)	72.5% (29)	40
		answered question	48
		skipped question	34

6. Do you suffer sleep loss from these vibrations or sounds?

	Response Percent	Response Count
yes	56.3%	27
no	43.8%	21
	answered question	48
	skipped question	34

7. You indicated you may have lost sleep from these sounds or vibrations. Estimate the amount of sleep you think you have lost on an average weeknight.

	Response Percent	Response Count
less than 30 minutes	18.5%	5
30 to 60 minutes	29.6%	8
1-2 hours	25.9%	7
2-3 hours	18.5%	5
3-4 hours	0.0%	0
more than 4 hours	7.4%	2
	answered question	27
	skipped question	55

8. How do you sense these vibrations or sounds?

	Respo Perc		Response Count
hear	23	3.0%	14
feel		3.3%	2
both hear and feel	73	3.8%	45
	answered ques	tion	61
	skipped ques	tion	21

9. Thinking back to the period immediately before and the week after Thanksgiving, do you think these sounds and or vibrations changed?

	Response Percent	Response Count
not sure or wasn't around to compare	26.2%	16
they got better after the holiday	11.5%	7
they seemed about the same	26.2%	16
they got worse after the holiday	36.1%	22
	answered question	61
	skipped question	21

10. If you hear these sounds, try to pick from the following what best describes the things you hear (check all that apply)

	Response Percent	Response Count
high pitched whining	1.9%	1
pneumatic drill-like sound	9.3%	5
something like but clearly not airplanes or jets overhead	44.4%	24
something like but clearly not the sounds of vehicles in the street	33.3%	18
something like a very intense bass (sub woofer) speaker located near my home	66.7%	36
a deep churning, humming sound	40.7%	22
deep thumping sounds, like a huge bass drum	72.2%	39
something like distant artillery shells	14.8%	8
like a diesel engine accelerating	7.4%	4
like someone dragging a recycling bin up concrete steps	29.6%	16
	Please enter your own description if none of these fit	12
	answered question	54
	skipped question	28

11. If you feel vibrations, try to pick how they feel from this list (check all that apply)

	Response Percent	Response Count
tingles in my feet and legs	3.3%	1
just feel it in my bones	36.7%	11
distinct pulses of vibrations like someone touched my chair with an electric hair trimmer or other motor	23.3%	7
continuous vibrations like from a massage chair but not so intense	66.7%	20
	please enter your own description if needed	14

answered question

skipped question

30

52

12. How would you rank the intensity of the sounds or vibrations when they are at their most intense levels?

	Response Percent	Response Count
only noticeable in a very quiet setting with no other noise or nearby activities	23.3%	14
intense enough to feel and or hear if I am undergoing normal activities	28.3%	17
they can be distracting during normal conversation, TV or radio	18.3%	11
I hear and or feel these vibrations or sounds no matter what	30.0%	18
	answered question	60
	skipped question	22

13. How would you rank intensity of the sounds or vibrations when they are at their softest or lowest levels?

	Response Percent	Response Count
only noticeable in a very quiet setting with no other noise or nearby activities	53.3%	32
intense enough to feel and or hear if I am undergoing normal activities	33.3%	20
they can be distracting during normal conversation, TV or radio	3.3%	2
I hear and or feel these vibrations or sounds no matter what	10.0%	6
	answered question	60
	skipped question	22

14. Try to rate how you feel when you sense these vibrations or sounds

	none	somewhat	a lot	Response Count
angry	46.7% (28)	33.3% (20)	20.0% (12)	60
fearful	46.7% (28)	41.7% (25)	11.7% (7)	60
anxious	31.7% (19)	41.7% (25)	26.7% (16)	60
irritated/annoyed	20.0% (12)	43.3% (26)	36.7% (22)	60
forgiving	76.7% (46)	20.0% (12)	3.3% (2)	60
depressed	78.3% (47)	18.3% (11)	3.3% (2)	60
calm	73.3% (44)	23.3% (14)	3.3% (2)	60
sad	73.3% (44)	23.3% (14)	3.3% (2)	60
happy	95.0% (57)	5.0% (3)	0.0% (0)	60
			answered question	60
			skipped question	22

15. Does the location in Montlake where you experience these vibrations and or sounds have a basement?

	Response Percent	Response Count
yes, there is basement	93.3%	56
no, the foundation is on ground level	6.7%	4
	answered question	60
	skipped question	22

16. Where in your home do you feel or hear these vibrations or sounds? (choose all that apply)

	Response Percent	Response Count
basement	76.8%	43
ground level floor	87.5%	49
upper floor(s)	73.2%	41
	answered question	56
	skipped question	26

17. Using numerical ranking where 1 is least and 5 is most, please rank the intensity you feel or hear sounds and or vibrations in your home or Montlake business

	0 (not at all)	1	2	3	4	5	Response Count
basement	6.1% (3)	12.2% (6)	8.2% (4)	18.4% (9)	18.4% (9)	36.7% (18)	49
ground floor	1.9% (1)	18.9% (10)	11.3% (6)	22.6% (12)	24.5% (13)	20.8% (11)	53
upper floor 1	12.8% (6)	14.9% (7)	10.6% (5)	21.3% (10)	21.3% (10)	19.1% (9)	47
upper floor 2	45.0% (9)	0.0% (0)	20.0% (4)	15.0% (3)	5.0% (1)	15.0% (3)	20
					answere	d question	56
					skippe	d question	26

18. Where in your home do you feel or hear these vibrations or sounds? (choose all that apply)

	Response Percent	Response Count
ground level floor	75.0%	3
upper floor(s)	50.0%	2
	answered question	4
	skipped question	78

19. Using numerical ranking where 1 is least and 5 is most, please rank the intensity you feel or hear sounds/vibrations in the following locations in your home

	0 (not at all)	1	2	3	4	5	Response Count
ground floor	0.0% (0)	25.0% (1)	25.0% (1)	25.0% (1)	25.0% (1)	0.0% (0)	4
upper floor 1	33.3% (1)	0.0% (0)	0.0% (0)	33.3% (1)	0.0% (0)	33.3% (1)	3
upper floor 2	33.3% (1)	0.0% (0)	0.0% (0)	33.3% (1)	0.0% (0)	33.3% (1)	3
					answere	d question	4
					skippe	d question	78

20. As regards the issue of mass transport in general, how do you feel? Response Response Percent Count very friendly towards mass transport, we really need more 72.2% 52 and better of it supportive 18.1% 13 6.9% 5 neutral there is enough mass transit 1.4% 1 already mass transit should make way for more personal ways of getting 1.4% 1 around answered question 72

skipped question

10

21. As regards Sound Transit in general, how do you feel?					
	Response Percent	Response Count			
dislike Sound Transit much or most of the time	4.1%	3			
not transparent and not trustworthy	15.1%	11			
neutral about Sound Transit	30.1%	22			
support Sound Transit's efforts in general	49.3%	36			
Sound Transit is doing everything right	1.4%	1			
	answered question	73			
	skipped question	9			

22. As regards the Sound Transit U-Link tunnel project design and concept, how do you feel?

	no opinion	agree	neutral	disagree	Response Count
Choice of a tunnel instead of a surface or elevated route	8.3% (6)	63.9% (46)	18.1% (13)	9.7% (7)	72
The location and convenience of stations	5.6% (4)	38.0% (27)	33.8% (24)	22.5% (16)	71
It will be something I look forward to using for my travel/commuting in the city	4.2% (3)	52.8% (38)	33.3% (24)	9.7% (7)	72
Seems like a complete waste of money	5.6% (4)	9.7% (7)	13.9% (10)	70.8% (51)	72
			ans	swered question	72
			s	kipped question	10

), Q10. If you hear these sounds, try to pick from the following what best describes all that apply)	the things you hear
1	vibrations that sometimes cause paintings on walls to buzz	Dec 11, 2011 6:41 PM
2	like a washing maching running in the next room	Dec 11, 2011 4:53 PM
3	Intense, long lasting bowling ball with intermittent ka chunks	Dec 11, 2011 2:20 PM
4	deep rumbling sound with vibration	Dec 10, 2011 4:04 PM
5	a doppler effect, sound approches grows louder, reaches high level, then lessens as device passes.	Dec 10, 2011 12:31 PM
6	something like distant heavy bombing	Dec 9, 2011 8:57 AM
7	Like the biggest gang banger car I've ever heard rolling through the neighborhood. Thumping bass.	Dec 7, 2011 9:45 PM
8	I find it like a car stereo that's too loud but blocks away. Not bothersome.	Dec 7, 2011 5:36 PM
9	This is a tough one, because the sounds are different at times	Dec 7, 2011 3:34 PM
10	A constant rumble with rhythmic thumps	Dec 7, 2011 12:13 PM
11	Rhythmic thumping sound, exactly like standing next to train tracks when a freight is passing	Dec 7, 2011 8:24 AM
12	Rumbeling of thunderstorm	Dec 6, 2011 11:02 PM

deep rhythmic pulses tht correspond to the sounds; also will occasionally rattle wine glasses in our kitchen cabinets and/or the glass portion of the cabinets themselves! 3 distant shocks that cause ground to jump a little 4 subtle vibtration 5 Dec 10, 2011 4:04 PM 5 South Tunnel, device in tunnel is loudest South bound, less noise North bound. 6 thumping is the most distinct 7 Windows rattle 8 very faint vibrations 9 I sense and feel someone has broken into our house downstairs, get up to check, nothing. 10 You can hear and feel the windows in the basement rattle 11 subtle, but when I put my hand on the kitchen table I can feel the vibration when a train is passing 12 very low frequency, rhythmic, thumping vibrations Dec 6, 2011 11:02 PM 14 soft, percussive wave that builds then diminishes Dec 6, 2011 7:14 PM		0, Q11. If you feel vibrations, try to pick how they feel from this list all that apply)	
wine glasses in our kitchen cabinets and/or the glass portion of the cabinets themselves! 3 distant shocks that cause ground to jump a little 4 subtle vibtration 5 Dec 10, 2011 4:04 PM 5 South Tunnel, device in tunnel is loudest South bound, less noise North bound. 6 thumping is the most distinct 7 Windows rattle 8 Dec 8, 2011 3:11 PM 8 very faint vibrations 9 I sense and feel someone has broken into our house downstairs, get up to check, nothing. 10 You can hear and feel the windows in the basement rattle 11 Subtle, but when I put my hand on the kitchen table I can feel the vibration when a train is passing 12 very low frequency, rhythmic, thumping vibrations Dec 6, 2011 11:02 PM 13 Pressure in my eardrums Dec 6, 2011 11:02 PM	1	see answer to question 10	Dec 11, 2011 6:41 PM
subtle vibtration Dec 10, 2011 4:04 PM South Tunnel, device in tunnel is loudest South bound, less noise North bound. Dec 10, 2011 12:31 PM thumping is the most distinct Dec 9, 2011 10:04 AM Windows rattle Dec 8, 2011 3:11 PM very faint vibrations Dec 8, 2011 11:24 AM I sense and feel someone has broken into our house downstairs, get up to check, nothing. You can hear and feel the windows in the basement rattle Dec 8, 2011 8:31 AM You can hear and feel the windows in the basement rattle Dec 7, 2011 10:07 AM a train is passing Very low frequency, rhythmic, thumping vibrations Dec 6, 2011 11:02 PM Pressure in my eardrums	2	wine glasses in our kitchen cabinets and/or the glass portion of the cabinets	Dec 11, 2011 4:51 PM
South Tunnel, device in tunnel is loudest South bound, less noise North bound. Dec 10, 2011 12:31 PM thumping is the most distinct Dec 9, 2011 10:04 AM Windows rattle Dec 8, 2011 3:11 PM very faint vibrations Dec 8, 2011 11:24 AM I sense and feel someone has broken into our house downstairs, get up to check, nothing. You can hear and feel the windows in the basement rattle Dec 8, 2011 8:58 AM You can hear and feel the windows in the basement rattle Dec 8, 2011 8:31 AM subtle, but when I put my hand on the kitchen table I can feel the vibration when a train is passing very low frequency, rhythmic, thumping vibrations Dec 7, 2011 8:24 AM Pressure in my eardrums Dec 6, 2011 11:02 PM	3	distant shocks that cause ground to jump a little	Dec 10, 2011 6:46 PM
thumping is the most distinct Dec 9, 2011 10:04 AM Windows rattle Dec 8, 2011 3:11 PM resure and feel someone has broken into our house downstairs, get up to check, nothing. Dec 8, 2011 11:24 AM Dec 8, 2011 8:58 AM Dec 8, 2011 8:31 AM results, but when I put my hand on the kitchen table I can feel the vibration when a train is passing results from the put my hand on the kitchen table I can feel the vibration when a train is passing Pressure in my eardrums Dec 6, 2011 11:02 PM	4	subtle vibtration	Dec 10, 2011 4:04 PM
7 Windows rattle Dec 8, 2011 3:11 PM 8 very faint vibrations Dec 8, 2011 11:24 AM 9 I sense and feel someone has broken into our house downstairs, get up to check, nothing. 10 You can hear and feel the windows in the basement rattle Dec 8, 2011 8:31 AM 11 subtle, but when I put my hand on the kitchen table I can feel the vibration when a train is passing 12 very low frequency, rhythmic, thumping vibrations Dec 7, 2011 10:07 AM 13 Pressure in my eardrums Dec 6, 2011 11:02 PM	5	South Tunnel, device in tunnel is loudest South bound, less noise North bound.	Dec 10, 2011 12:31 PM
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a train is passing 12 very low frequency, rhythmic, thumping vibrations Dec 7, 2011 8:24 AM 13 Pressure in my eardrums Dec 6, 2011 11:02 PM	10	You can hear and feel the windows in the basement rattle	Dec 8, 2011 8:31 AM
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	12	very low frequency, rhythmic, thumping vibrations	Dec 7, 2011 8:24 AM
14 soft, percussive wave that builds then diminishes Dec 6, 2011 7:14 PM	13	Pressure in my eardrums	Dec 6, 2011 11:02 PM
	14	soft, percussive wave that builds then diminishes	Dec 6, 2011 7:14 PM