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% | 51 |
| no | 0.0% | 0 |
| | answered question | 51 |
| | 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?

| | Response Percent | Response Count |
|-----|---------------------|-------------------|
| YES | 76.5% | 39 |
| NO | 23.5% | 12 |
| | answered question | 51 |
| | skipped question | 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 | 95.0% | 38 |
| No | 0.0% | 0 |
| Not sure | 5.0% | 2 |
| | answered question | 40 |
| | skipped question | 11 |

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) | 59.0% | 23 |
| afternoons (noon - 5PM) | 71.8% | 28 |
| evenings (5PM - 10PM) | 87.2% | 34 |
| nightime (10PM - 7AM) | 82.1% | 32 |
| | answered question | 39 |
| | skipped question | 12 |

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 | 38.7% (12) | 61.3% (19) | 31 |
| prohibits me from falling back asleep if I am up for some other reason | 51.6% (16) | 48.4% (15) | 31 |
| leaves me wondering if I'll be able to fall back asleep before the next one hits | 41.9% (13) | 58.1% (18) | 31 |
| wakes my children | 7.4% (2) | 92.6% (25) | 27 |
| causes anxiety in me or family members | 53.3% (16) | 46.7% (14) | 30 |
| affects my pet or pets | 28.6% (8) | 71.4% (20) | 28 |
| | | answered question | 32 |
| | | skipped question | 19 |

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

| | Response Percent | Response Count |
|-----|---------------------|-------------------|
| yes | 56.3% | 18 |
| no | 43.8% | 14 |
| | answered question | 32 |
| | skipped question | 19 |

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 | 22.2% | 4 |
| 30 to 60 minutes | 33.3% | 6 |
| 1-2 hours | 27.8% | 5 |
| 2-3 hours | 16.7% | 3 |
| 3-4 hours | 0.0% | 0 |
| more than 4 hours | 0.0% | 0 |
| | answered question | 18 |
| | skipped question | 33 |

8. How do you sense these vibrations or sounds?

| | Response Percent | Response Count |
|--------------------|---------------------|-------------------|
| hear | 20.5% | 8 |
| feel | 2.6% | 1 |
| both hear and feel | 76.9% | 30 |
| | answered question | 39 |
| | skipped question | 12 |

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 | 25.6% | 10 |
| they got better after the holiday | 5.1% | 2 |
| they seemed about the same | 25.6% | 10 |
| they got worse after the holiday | 43.6% | 17 |
| | answered question | 39 |
| | skipped question | 12 |

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 | 2.6% | 1 |
| pneumatic drill-like sound | 7.9% | 3 |
| something like but clearly not airplanes or jets overhead | 42.1% | 16 |
| something like but clearly not the sounds of vehicles in the street | 34.2% | 13 |
| something like a very intense bass (sub woofer) speaker located near my home | 65.8% | 25 |
| a deep churning, humming sound | 31.6% | 12 |
| deep thumping sounds, like a huge bass drum | 68.4% | 26 |
| something like distant artillery shells | 15.8% | 6 |
| like a diesel engine accelerating | 7.9% | 3 |
| like someone dragging a recycling bin up concrete steps | 28.9% | 11 |
| | Please enter your own description if none of these fit | 8 |
| | answered question | 38 |
| | skipped question | 13 |

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 | | 4.5% | 1 |
| just feel it in my bones | | 40.9% | 9 |
| distinct pulses of vibrations like someone touched my chair with an electric hair trimmer or other motor | | 27.3% | 6 |
| continuous vibrations like from a massage chair but not so intense | | 63.6% | 14 |
| | please | enter your own description if needed | 10 |
| | | answered question | 22 |

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

skipped question

29

| | Response Percent | Response Count |
|----------------------------------------------------------------------------------|---------------------|-------------------|
| only noticeable in a very quiet setting with no other noise or nearby activities | 17.9% | 7 |
| intense enough to feel and or hear if I am undergoing normal activities | 28.2% | 11 |
| they can be distracting during normal conversation, TV or radio | 23.1% | 9 |
| I hear and or feel these vibrations or sounds no matter what | 30.8% | 12 |
| | answered question | 39 |
| | skipped question | 12 |

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 | 53.8% | 21 |
| intense enough to feel and or hear if I am undergoing normal activities | 35.9% | 14 |
| they can be distracting during normal conversation, TV or radio | 0.0% | 0 |
| I hear and or feel these vibrations or sounds no matter what | 10.3% | 4 |
| | answered question | 39 |
| | skipped question | 12 |

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

| | none | somewhat | a lot | Response Count |
|-------------------|------------|------------|-------------------|-------------------|
| angry | 48.7% (19) | 33.3% (13) | 17.9% (7) | 39 |
| fearful | 46.2% (18) | 46.2% (18) | 7.7% (3) | 39 |
| anxious | 30.8% (12) | 43.6% (17) | 25.6% (10) | 39 |
| irritated/annoyed | 20.5% (8) | 41.0% (16) | 38.5% (15) | 39 |
| forgiving | 69.2% (27) | 25.6% (10) | 5.1% (2) | 39 |
| depressed | 84.6% (33) | 15.4% (6) | 0.0% (0) | 39 |
| calm | 69.2% (27) | 25.6% (10) | 5.1% (2) | 39 |
| sad | 82.1% (32) | 17.9% (7) | 0.0% (0) | 39 |
| happy | 92.3% (36) | 7.7% (3) | 0.0% (0) | 39 |
| | | | answered question | 39 |
| | | | skipped question | 12 |

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 | 92.3% | 36 |
| no, the foundation is on ground level | 7.7% | 3 |
| | answered question | 39 |
| | skipped question | 12 |

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

| | Response Percent | Response Count |
|--------------------|---------------------|-------------------|
| basement | 72.2% | 26 |
| ground level floor | 88.9% | 32 |
| upper floor(s) | 83.3% | 30 |
| | answered question | 36 |
| | skipped question | 15 |

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 | 6.7% (2) | 13.3% (4) | 6.7% (2) | 16.7% (5) | 20.0% (6) | 36.7% (11) | 30 |
| ground floor | 0.0% (0) | 12.1% (4) | 15.2% (5) | 18.2% (6) | 30.3% (10) | 24.2% (8) | 33 |
| upper floor 1 | 3.2% (1) | 12.9% (4) | 9.7% (3) | 22.6% (7) | 25.8% (8) | 25.8% (8) | 31 |
| upper floor 2 | 33.3% (4) | 0.0% (0) | 16.7% (2) | 16.7% (2) | 8.3% (1) | 25.0% (3) | 12 |
| | | | | | answere | d question | 36 |
| | | | | | skippe | d question | 15 |

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 | 66.7% | 2 |
| upper floor(s) | 66.7% | 2 |
| | answered question | 3 |
| | skipped question | 48 |

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) | 0.0% (0) | 33.3% (1) | 33.3% (1) | 33.3% (1) | 0.0% (0) | 3 |
| 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 | 3 |
| | | | | | skippe | d question | 48 |

| 20. As regards the issue of mass transport in general, how do you feel? | | | | | |
|----------------------------------------------------------------------------------|--|---------------------|-------------------|--|--|
| | | Response Percent | Response Count | | |
| very friendly towards mass transport, we really need more and better of it | | 77.6% | 38 | | |
| supportive | | 14.3% | 7 | | |
| neutral | | 6.1% | 3 | | |
| there is enough mass transit already | | 2.0% | 1 | | |
| mass transit should make way for more personal ways of getting around | | 0.0% | 0 | | |
| | | answered question | 49 | | |
| | | skipped question | 2 | | |

| 21. As regards Sound Transit in general, how do you feel? | | | | |
|-----------------------------------------------------------|---------------------|-------------------|--|--|
| | Response Percent | Response Count | | |
| dislike Sound Transit much or most of the time | 2.0% | 1 | | |
| not transparent and not trustworthy | 16.3% | 8 | | |
| neutral about Sound Transit | 32.7% | 16 | | |
| support Sound Transit's efforts in general | 49.0% | 24 | | |
| Sound Transit is doing everything right | 0.0% | 0 | | |
| | answered question | 49 | | |
| | skipped question | 2 | | |

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 | 10.2% (5) | 63.3% (31) | 18.4% (9) | 8.2% (4) | 49 |
| The location and convenience of stations | 4.2% (2) | 37.5% (18) | 33.3% (16) | 25.0% (12) | 48 |
| It will be something I look forward to using for my travel/commuting in the city | 4.1% (2) | 51.0% (25) | 38.8% (19) | 6.1% (3) | 49 |
| Seems like a complete waste of money | 6.1% (3) | 8.2% (4) | 14.3% (7) | 71.4% (35) | 49 |
| | | | an | swered question | 49 |
| | | | s | kipped question | 2 |

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

| | , Q11. If you feel vibrations, try to pick how they feel from this list all that apply) | |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| 1 | 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 themselvesl | Dec 11, 2011 4:51 PM |
| 2 | distant shocks that cause ground to jump a little | Dec 10, 2011 6:46 PM |
| 3 | South Tunnel, device in tunnel is loudest South bound, less noise North bound. | Dec 10, 2011 12:31 PM |
| 4 | thumping is the most distinct | Dec 9, 2011 10:04 AM |
| 5 | Windows rattle | Dec 8, 2011 3:11 PM |
| 6 | I sense and feel someone has broken into our house downstairs, get up to check, nothing. | Dec 8, 2011 8:58 AM |
| 7 | You can hear and feel the windows in the basement rattle | Dec 8, 2011 8:31 AM |
| 8 | very low frequency, rhythmic, thumping vibrations | Dec 7, 2011 8:24 AM |
| 9 | Pressure in my eardrums | Dec 6, 2011 11:02 PM |
| 10 | soft, percussive wave that builds then diminishes | Dec 6, 2011 7:14 PM |