

July 9, 2013

Good evening Commissioners.

My name is Carrie Young and I live in Bellevue, Wa and have recently purchased a home in Badger Pocket in Ellensburg. My husband and I plan to spend most weekends and holidays out here. We have come to love this community and enjoy small town life.

Thank you for taking the time to hear our concerns.

I would first like to speak to the issue of fire danger.

The area around the Ryegrass Landfill is Rural Sagebrush Steppe.

The sagebrush is highly flammable as we saw last week when a fire erupted out close to the area being considered for lease. While the closest dwellings are several miles away, with winds of up to 35 or 40 mph, the fire could easily travel south over I-90, over the Boylston Mountains and wind up in Badger Pocket.

Likewise, the fire could travel west as at times the prevailing winds are not always from the north or west. (Please see document showing prevailing winds in the county.) There are structures less than 6 miles from the landfill and these could be in the danger zone very quickly in high winds.

It has been shown that compost piles do spontaneously combust. The Cedar Grove landfill has had numerous fires. Who will pay for the fire fighting costs? Is this in the budget for Kittitas County?

Carrie Young
7-9-13

Furthermore, the area being considered for lease to Pacificlean is zoned Forest/Range, not Urban Industrial as per the County Code Chapter 17.56.

17.56.010

The purpose and intent of this zone is to provide for areas of Kittitas County wherein natural resource management is the highest priority and where the subdivision and development of lands for uses and activities incompatible with resource management are discouraged consistent with the commercial forest classification policies of the comprehensive plan.

I cannot see how natural resource management would be of highest priority if Pacificlean sites their compost facility out in the landfill. If a fire breaks out, it would decimate the natural resources out in the area. And, given that rats and other disease carrying products will be brought into the area on the trucks, these could infest the surrounding area with non-native species.

I live in Bellevue and there is no one checking what is in my green container when it goes out to the curb and then into the truck? Even cursory sorting would fail to find many improper items for compost piles.

Next, I would like to speak to the issue of smell of composting facilities.

Pacificlean saying that the area will have minimal smells is disingenuous. Cedar Grove's facilities in both Maple Valley and Everett have had many, many complaints about smell over the recent years. They have hired trained "olfactorists" to try to discern if in fact the smells are coming from the compost piles.

On average, given how strong the winds are in Kittitas County versus in King County, there is no guarantee where the smells will travel. Compost piles by their very nature are smelly. That cannot be disputed.

While Pacificlean claims they will use the latest technology in Gore Tarps, these have not done the job for Cedar Grove, nor many other facilities across the US. I am giving you a copy of this article where failure of these tarping systems is documented.

When the complaints start coming in, does Kittitas County have the financial resources to investigate?

Plus, the tarps have to be removed so the piles can be turned. When the tarps are removed, the smell escapes.

Numerous fines have been levied in King and Snohomish County because of the smells. Who will be in charge of this for Kittitas County? The citizens have a right to know their interests are being protected by their elected officials.

I would ask you to count the costs. The cost in revenue that Pacificlean will bring in, the EXACT number of citizens in Kittitas County that PC will employ long-term (not just in the build out phase) and the dollars they will put in Kittitas County coffers.

Then I would ask you to count the risks: fire danger, smell and potentially no real gain in jobs or dollars to Kittitas County.

Is it worth it to lease to them? I say no. The cost is too high.

FIRST NERVE

TAKING A SCIENTIFIC SNIFF AT THE CULTURE OF SMELL

SUNDAY, MAY 30, 2010

Green and Stinky: Large-Scale Composting Blights the American Smellscape



Towns all across American are tripping over themselves to be more green. Recycling of newspapers, glass and plastic is old hat—the next big push is to recycle biodegradable consumer waste: food scraps and other wet garbage, grass trimmings and leaves, and the . . . ahem . . . “solids” left behind after the treatment of sewage. The new environmental mantra is composting.

Like most green initiatives, composting sounds good in principle. Municipal or county projects are usually promoted as a way to reduce waste volume and simultaneously save—or even make—money. The idea appeals to our thrifty Yankee heritage; why let something go to waste if we can turn it into profit or at least into something useful? Not to mention, it will appease Gaia the great earth mother in the process.

Unfortunately, like other green initiatives, composting proves to be troublesome in practice. A compost pile—even a small, well-tended one—produces some odor as the materials decompose. When composting is done on a large scale with bulldozers and dump trucks the odor can be intense enough and unpleasant enough to impact the surrounding community. And in fact it does so on a regular basis. Let’s review a few examples culled from the news in just the past year or so. They illustrate some consistent patterns that will likely become more familiar as the composting juggernaut gains speed.

ABOUT ME



AVERY GILBERT

I'm a sensory psychologist. My specialty is olfaction - the strange and

wonderful world of smell. I've worked in academia and the corporate world, published my research in scientific journals, and written a book on the science of smell.

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The delicately named Timpanogos Special Service District is a publicly owned sewage plant in Utah. Its compost operation has been stinking up the towns of Lindon, Pleasant Grove, and American Fork. In response to complaints, the facility is installing an automated system that regularly turns the compost heap and keeps it covered with an allegedly odor-suppressing tarp made of Gore-fabric. The cost of the system: \$6 million. Watch the video clip from ABC-Channel 4 in Salt Lake City for lots of happy talk about saving the earth and an interview with the German engineer for the automated system. Yes, that's right—the system comes from Germany. Apparently we Americans can't handle our own shit anymore.

Even more unsettling is that the Timpanogos planners didn't anticipate that a sludge-composting operation would create a big stink. This planning failure is a consistent theme. In Verona, Wisconsin, for example, Second Season Recycling is under fire from local residents. *The Verona Press* ran the story under the headline "Compost center pledges to turn over a new leaf; Neighbors upset over foul odors at Second Season."

Complaints about the smells from Second Season had been mounting for several weeks, said Kristen Bergmann, property manager of the apartments, which are just across the Highway 18-151 underpass. Bergmann said she received about 30 complaints in 60 days, including several residents threatening to move.

Second Season staff turn the compost piles to help the material break down. But without proper timing, turning the piles leads to the bad smell nearby residents have been experiencing.

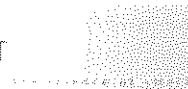
The crowd's consensus was that despite whatever good Second Season might be doing by recycling and composting, it's too close to residential areas. One man said his daughter can't smell the compost odors without becoming nauseated. Others complained about not being able to open windows or take walks outside.

"The smell drifts across the road, and you just want to scream," one woman said shortly before the meeting began.

(Second Season representative Jeanne) Whitish asked the crowd for patience and said that finding when to turn the compost piles will probably take some trial and error because it is not an "exact science."

Not an exact science indeed. Translation: Second Season Recycling failed to plan for an obvious consequence of its operation. And Ms. Whitish wants the nosey neighbors in Verona to cool it while she and her colleagues tinker with the trash pile.

The town of Woodbridge, New Jersey has been tussling with a Boston-based food waste recycling operation called Converted Organics, Inc. The company converts "biodegradable food wastes into dry pellet and liquid concentrate organic fertilizers that help grow healthier food and improve environmental quality." The problem is that the plant stinks so much workers at nearby companies have vomited. Converted Organics has racked up over \$90,000 in



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fines from the county for its odor issues.

The company already has installed two odor-control devices and recently conducted various studies to find the source of the odor.

"We have done significant renovations and modifications to this date," [a company official] said.

Significant renovations and modifications would not have been necessary if the company had planned for odor control in the first place. Are these folks stupid or do they take us for rubes? You decide: on the application to the town's Planning Board, Converted Organics stated "that there was a 99.7 percent chance of no odor at all."

When Flint, Michigan placed its new leaf and lawn waste composting operation right in the middle of town, residents began to complain of the "putrid smell".

"At first we thought it was our garbage, but the smell is so bad, we realized quickly it was something bigger," Eashoo said. "It makes people not want to go outside or eat outside."

Steve Montle, Flint's Director of Green Initiatives, has a whole sheaf of excuses at hand: (1) it's still a brand-new operation, (2) they need to adjust the process as the temperature warms up, and (3) "it's something to do with the amount and mix of materials we have coming onto the site."

Why not tell the truth, Mr. Montle? Tell the citizens of Flint that composting generates smell and that's the price they'll have to pay for your Green Initiative?

BTW who is Steve Montle? An engineer? A horticulturalist? No, he's a political hack:

Montle previously served as the executive director of the Genesee Conservation District. He also has served as the executive director of the Flint River Watershed Coalition and was a legislative staff coordinator for senator John Gleason, D-Flushing. He also was a high school teacher at Hamady High School for the Westwood Heights School District.

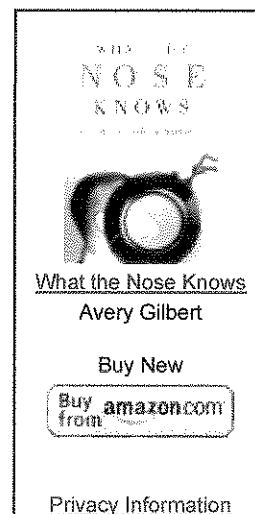
In Bloomingdale, New Jersey ("The Jewel of Passaic County"), residents have been complaining about the smell from the compost pile at the borough's Department of Public Works Yard. Forty-one of them signed a petition objecting to the odor.

According to a town council member, "There are days and evenings when the smell is unbearable. Someone thought it was a dead body." [We know just what you mean—Ed.]

Bloomingdale pays a private company to manage its compost pile. The contractor's spokesman was upfront about the issue:

-  Posts ✓
-  Comments ✓

MY BOOK ON KINDLE OR AUDIBLE



WORTH A VISIT

+Q Perfume
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Grain de Musc
Katie Puckrik Smells
Leslie Vosshall's Lab
Nathan Branch
OsMoz
Perfume Shrine

FIRST NERVE ARCHIVE

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 - ▶ July (15)
 - ▶ June (22)
 - ▼ May (17)

When material, which is natural ground-up brush, is broken down, there is an odor, Flockhart explained. No dyes or toxins are being used, he said.

All natural—no artificial ingredients! Doesn't that make you feel better?

Even the U.S. Army is going green. In May, 2009, the Los Alamitos Joint Forces Training Base in southern California

launched a 5-year pilot program to test transporting green waste for composting at the base in an effort to divert waste from landfills, help with agriculture, reduce pesticides and water usage.

What's not to like? The smell, apparently. The neighboring towns of Cypress, Garden Grove, Los Alamitos and Seal Beach are unhappy enough about it to write the Secretary of the Army demanding that the project be stopped. The Secretary has refused to do so, but the composting is currently on hold.

In Hammond, Indiana, the Mayor and city council members threatened legal action against a composting company in the adjoining town of Gary, after complaining of a smell described as "the most unbearable smell anyone should have to put up with."

Faced with complaints by residents, local jurisdictions have tried to regulate the troublesome operations out of existence. A company in Gainesville, Georgia, spray irrigates its farm fields with treated effluent from human and commercial waste. The county commissioners passed ordinances to stop the practice, but the company, LHR Farms, filed a federal lawsuit against them charging that the ordinances are pre-empted by state law. (LHR Farms is already regulated by Georgia's Environmental Protection Division.)

In a number of cases, cities have decided that the ecological benefits of composting are simply not worth the grief caused by the smell.

Here's a blunt New York-style headline: "City To End Contract with Smelly Bronx Sewage Plant." The plant takes sludge from fourteen New York sewage treatment facilities and recycles it into organic fertilizer. It's green and Gaia-friendly. But residents in the Hunts Point section of the borough can't stand the stench.

But what about all the green jobs that will be lost?

New York's environmental protection commissioner says the city could save \$18 million a year by sending the sludge to landfills rather than having it recycled.

Wh-wh-what? Isn't recycling supposed to save money?

Another one bites the sludge: Seabrook, Massachusetts unplugs the green technology at its new treatment plant because it stinks.

What started out as a way to reduce the town's sludge disposal costs

Green and Stinky: Large-Scale Composting Blights t...

Smelly Web Indexes: Raincheck

WSJ Profiles Christopher Brosius

Inside Baseball on Blogging

American Smellscapes: Spring in the Pacific Northw...

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SWI: The CCSI Plunges

Quick Sniffs:A Fragrant Folio

SWI: The Solo Blog Shuffle

ISDP: Better Late Than Never

The FirstNerve BurrOmeter: Barely a Pulse

SWI: Wilting of the April Bloom?

Face to Face with Perfume: Dr. Theresa L. White

Bottle Design Meets Olfactory Genius

Dudel!

Where We've Been

The Smelly Web Indexes: Rollercoaster!

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while taking part in technology that could revolutionize treatment of waste solids on the municipal level has ended in acrimony and costly legal bills and settlement costs.

The town of Seabrook and the owners of PMC BioTec have negotiated a settlement that terminates the contract the Boston company had with the town to install a microbiotic sludge reduction system in its sewer plant.

The litany of olfactory complaints is a familiar one:

Foul odors permeated the treatment plant and the surrounding area. Neighbors came forward with complaints that they had to live with windows and doors shut — even in the summertime — due to the constant foul odor. Treatment plant employees also complained about illness.

The stinky composting issue came to head this March in Vacaville, California.

An allegedly eye-watering, throat-closing, mind-boggling stench was the focus Tuesday night of a community meeting in Elmira that turned contentious quickly, resulting in heated eruptions and the verbal roasting of a Solano County official.

About 30 residents gathered at the Elmira Fire Station to hound officials about the reportedly noxious odors wafting from the Jepson Prairie Organics compost facility on Hay Road, just east of Vacaville, at different times during the day and night.

Noxious odors? Impossible—the company has “organic” in its name.

Portland, Oregon is charging ahead with a plan to introduce curbside composting, to hosannas from environmentalists. But the view is different in North Plains, 20 miles northwest of Portland, where the actual compost pile is located.

But if not properly maintained, composting does omit [sic] an unpleasant stench - an odor that, according to North Plains City Manager Don Otterman, has been bothering the small city for the past 10 years. “While it’s a good idea to try to compost everything you can to keep it out of the landfill, nobody’s considering the impact that this could potentially have on [the city],” Otterman says.

“We still get complaints from residents. We get people driving down Highway 26 that have told us that they know when they get into North Plains because they smell it,” he explains. “And that’s having a pretty bad impact on the city’s reputation.”

The stinky compost problem is widespread: Utah, Wisconsin, New Jersey, Michigan, California, Indiana, New York, and Oregon at the very least. The social and political dynamics are similar: a “green” initiative is promoted on the implicit or explicit promise that it is an environmentally clean and thrifty way to deal with biodegradable consumer waste. Once operations are underway, stinky reality sets in: large-scale composting frequently generates enough stench to cause an uproar among people living within

smelling distance. Then comes the inevitable dance of recrimination and remediation: unhappy city councilors and county commissioners on one side, composting/recycling company officials on the other. “It stinks,” say the town fathers. “It’s not an exact science,” say the company spokesmen, “we’re trying to engineer some solutions.”

In almost every case the composters are taken by surprise. Maybe they all truly believe that their shit doesn’t stink, in which case they are deluded dreamers. Maybe they believe that the towns that hire them are populated by fools and chumps—in which case they are cynical bastards. Either way, surprise is no longer a credible response given how often stinky composting has been in the news recently. Any city attorney worth his salt should be writing nuisance odor penalties into composting contracts.

Is there a technical solution to this problem? The green lobby insists that properly managed compost produces little odor. Perhaps this is true on a small scale—your suburban backyard, for example, with its carefully tended little mound of leaves, banana peels and potato skins. But consider the analogy of pig manure. The smell of a couple of pigs in a pasture is noticeable but not objectionable. Put five thousands porkers in a feedlot and the odor problem is enormous. A similar scale-up of odor emissions is almost certain to occur in composting. The scandal isn’t that large-scale compost stinks—it’s that these operations are being set up without adequate controls in the first place.

The first step to getting clean is to admit that you have a problem. For us to make any progress on this issue, the advocates of clean composting need to come clean about the malodorous side of their business.

UPDATE May 31, 2010

In a remarkably disingenuous article on the front page of today’s *San Francisco Chronicle*, staff writer John Wildermuth airily waves off earlier concerns expressed about SF’s “aggressive ‘recycle or else’ law requiring homeowners, businesses and residents of apartment buildings to separate out food waste for composting.” (Aggressive as in \$1,000 fines for noncompliance—the fines will kick a year from now; until then resisters get citations.)

Wildermuth quotes a spokesman for the city’s environmental department: “People are dealing with it just fine.” Well, the people in San Francisco maybe.

According to Wildermuth, about twenty trucks a day haul 24.5 tons each to the Jepson Prairie Organics composting site in . . . Vacaville.

That right, Vacaville—where the citizens are loudly objecting to noxious composting odors that waft from the Jepson Prairie Organics facility day and night (see above).

In other words, when it comes to composting progressive San Franciscans are “dealing with it just fine” because they don’t have to smell it. It’s the chumps up I-80 in Vacaville who get to do that.

How would San Francisco be “dealing with it” if the compost pile were in Golden Gate Park or the Presidio? And why shouldn’t it be; after all, it’s their garbage?

Environmental lobbyists and their apologists in the mainstream media should be called to accounts for their intellectual dishonesty.

POSTED BY AVERY GILBERT AT 6:46 PM 

LABELS: BOGOSITY METER, GREEN AND STINKY, SMELLSCAPES

5 COMMENTS:

La Bonne Vivante said...

Great post, as always.

I dunno, I mean, we humans have been living with shitty, smelly smells ever since we ceased being nomadic. That's life, I guess.... One wonders whether the bad smell couldn't just eventually become part of our olfactory landscape, a necessary evil due to too many humans in too little space. We haven't paid the piper on this front for almost a century now, and payback's a bitch.

MAY 30, 2010 AT 7:29 PM

Olfacta said...

Ah, San Francisco.

Did any of these stories mention, um, rats? Otherwise known as "nature's clean-up crew?" Because even backyard compost piles seem to attract them. In fact, you could call the piles "rat resorts."

JUNE 1, 2010 AT 10:53 AM

Ed C said...

I'm guessing that the people planning the mega-compostes have never had their own back yard piles.

An alternative explanation is, they knew there would be problems but wanted to force someone else to solve them.

JUNE 2, 2010 AT 9:20 AM

Anya said...

WASHINGTON

PREVAILING WIND DIRECTION

[illegible]

[illegible]

1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

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Country	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
Japan	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0
Germany	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0
France	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0
Italy	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0
Spain	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0
Sweden	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0
Belgium	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0
United Kingdom	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0
United States	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0
Canada	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0
Australia	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0
South Korea	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0
China	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0
India	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0
Brazil	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0
Argentina	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0	33.5	34.0
Colombia	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0						

2010

100

Lebenskraft

10 Miles

Boylston
Range

Handwritten: 7000

Google

6.9 mi – about 12 mins

