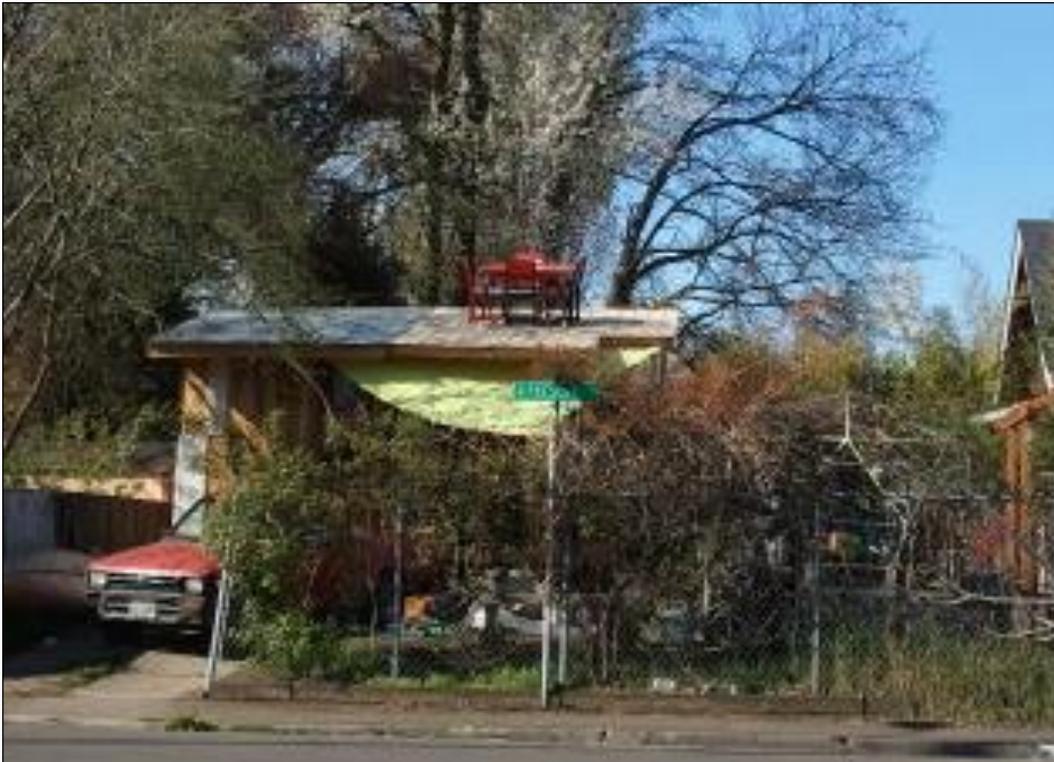

Traffic Calming Options

Woodlawn Neighborhood Association

Anjala Ehelebe - December 4, 2014 - PSU Transportation Class 503 805-6325



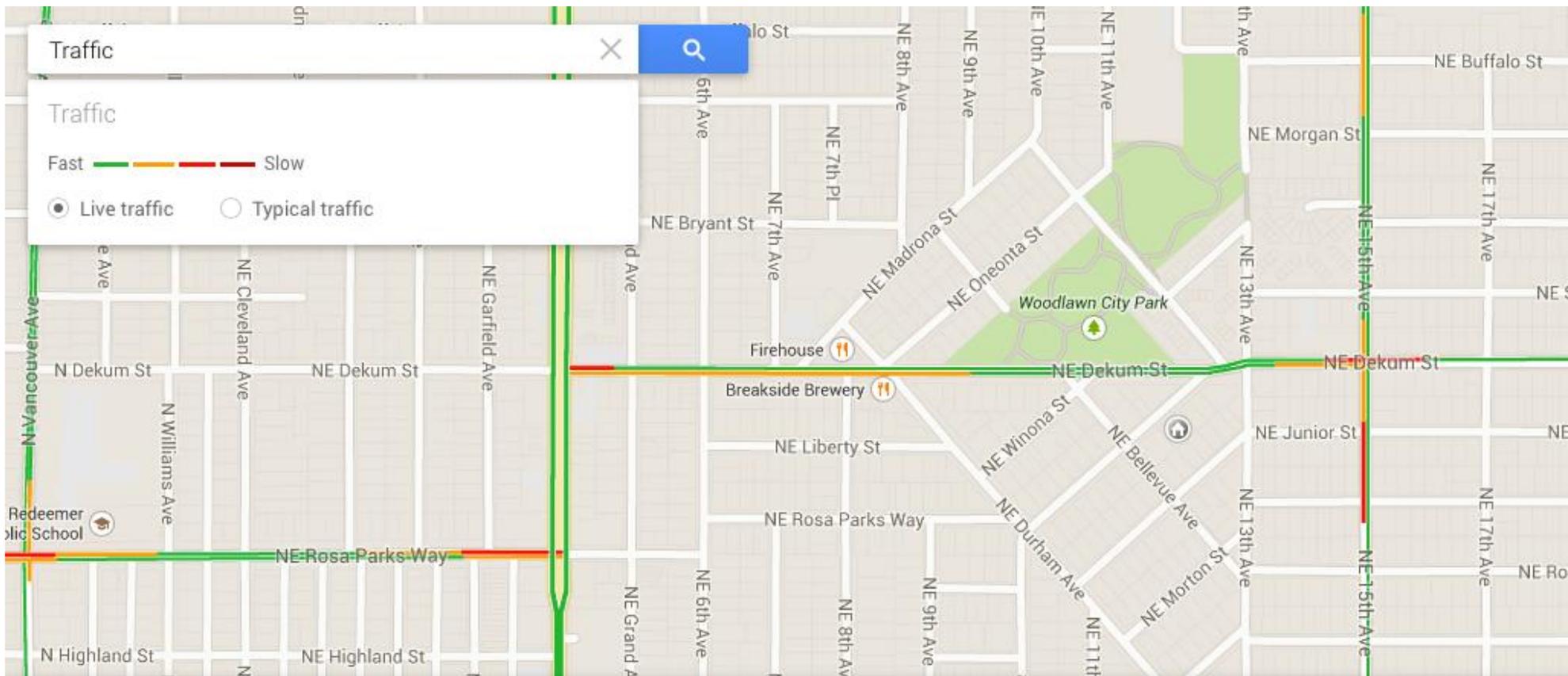
Introduction

My first photo shows where someone in North Portland put a dinette set on their carport. Probably many people drive by and don't see it, but I did, stopped and took a photo. All through Portland I have found art on houses, walls and sidewalks, art that made me pause, but once seen, the art has diminishing impact. I'm thinking of ways of changing driver behavior by **rewarding** them with **changing** art and poetry.

The second image is art we painted on the intersection of NE 8th Avenue and NE Holman St. In Woodlawn we have two painted intersections: one at 8th and Holland, [<https://ssl.panoramio.com/photo/96587909>] and the other at 8th and Holman [<https://www.google.com/maps/place//@45.5682429,-122.6574127,3a,75y,175.41h,90t/data=!3m4!1e1!3m2!1sDPGL1DzPgQ2iN6uXNxxP8A!2e0!4m5!1m2!2m1!1s806+NE+Holman+St+intersection+painting!3m1!1s0x5495a70289e3173b:0x991ab004c91a047b>]. We have no statistics as to whether these helped to calm traffic. They did help bring about community, with neighbors meeting neighbors to do the paintings and re-paintings. There is a delightful video of the original painting of 8th and Holman: [YouTube - 8th and Holman chacha]. Greg Raisman (PBOT Traffic specialist; see endnotes) says no studies show that intersection art slows traffic But they do help neighbors feel more pride in the attractiveness and specialness of their neighborhood. He thinks my project might not successfully slow traffic, but might have an aesthetic improvement effect.

Part of the inspiration for my project was seeing a video on a piano staircase funded by ThefunTheory.com, a project of Volkswagen that says: "This site is dedicated to the thought that something as simple as fun is the easiest way to change people's behaviour for the better. Be it for yourself, for the environment, or for something entirely different, the only thing that matters is that it's change for the better."

❖ The Problem: speeding down neighborhood streets. Here is a map of Woodlawn traffic patterns after school let out on a Tuesday afternoon. Woodlawn elementary school is at the north end of Woodlawn Park, between 12th and 13th, cross street NE Buffalo. Children and family members walking home sometimes use NE Buffalo and NE Morgan to go east, and these streets intersect NE 15th avenue, where people drive very fast. There is no school crossing on NE 15th and only one pedestrian crossing sign.



- ❖ The Possible solution: post a temporary sign that says: “Notice: When you keep under the speed limit, your reward will show at the next stop”. Next to that sign, place pneumatic road tubes across the street. (These tubes are connected to machines that can count cars and their speeds if properly placed.) By the stop sign or stop light at the end of the street, have a portable video reader board on a pole (maybe on a trailer somewhat like a radar speed sensor

set-up). There would be a link between the pneumatic road tubes and the reader board. This reader board would be programmed to show a video, a poem, a photo, so on, as a reward for driving the speed limit or slower. It would be blank (or “Alas!”) if the person drove too fast. This reader board would be mounted on/in a parking strip, and would not distract the driver who (hopefully) came to a full stop. It would be angled so that the driver and passengers would see it, but it wouldn’t be visible to people in houses or businesses. There are polarized plastic filters that make computer screens (or these reader boards) only visible from head on. More importantly, it wouldn’t be glaring light and images into neighbor houses. **It would be moved from street to street to increase the surprise and decrease the chance of vandalism and theft.**¹

Where would these setups be most effective?

I would first place the “Notice” sign and pneumatic tubes on the SE corner of the intersection of NE Winona St and NE Durham Avenue, and the reader board setup on the SE corner of the NE Dekum and NE Durham Avenue intersection across from Breakside Brewery. This is a major complicated intersection with much foot, bike, bus and auto traffic. I chose this side of the intersection because there is less visually to compete for the driver’s attention. The second place for the pneumatic tubes and notification sign would be at the NW corner of NE Morgan Street and NE 15th Avenue at the crest of the hill. This sign would slow folks down, I hope, on the way to the NE 15th and Dekum intersection. There are no stop signs at all from

¹Tom Jensen of Traffic Data says the tubes and their mechanism cost \$1,600 each, and you need two tubes, two feet apart to calculate the speed. He thinks that bicycles might be too light generally to trigger the tubes.

Lombard/Portland Highway to NE Dekum and cars zip along through there. School kids, parents, neighbors have to look lively to cross this street.

When would these reader board and tube combos be used?

These would be usable all months of the year, unless snow is on the roads. With a solar panel charging option these could maybe work 24-7. (Solar panels are an option available on most speed-radar units; one website says 2.5 hours of sun charges the machine for a day, but that's for a one-color radar unit, I don't know what kind of charging hours multi-color units would require), I'd think we'd have to experiment to find out how long to keep the reader board in one place to maximize effectiveness.

Greg Raisman says the scientific way to confirm traffic calming effectiveness is to measure speeding before an installation, during installation, and then three to six months thereafter. This kind of defeats my idea of having quick-moving art reader board sites, to keep people's attention, and to keep the setup new and exciting. Unless we want to give up using this as a traffic calmer and do this as a way to attract people to the neighborhood to find where the new and exciting quick-moving art board is. And they'd have to slow down to see the art.

Major barriers to implementation

- Cost: pneumatic road tubes \$3,200, reader board (vandal proof) and/or trailer \$30,000,

-
- custom programming of reader board \$1,000 (guessing)
 - Vandalism, theft
 - Programmable trailer reader board may not exist, though I think it does, I looked online and couldn't find one. Programmable LED advertising signs do exist, this might be something less elaborate and simpler to assemble. (About \$10,000 total.)
 - No prohibitions I can find in city code.

Winners and losers

- Neighbors win because of calmer traffic.
- Artists, poets, writers and photographers win because of exposure of their products.
- We might create this as a neighborhood business, or franchise this; winning by creating employment.
- If this becomes popular as ART, we might attract more traffic and customers for businesses in the neighborhood.
- Losers: People might cross the pneumatic tubes but not continue to the end of the street and stop sign, thus missing the art.
- Bicyclists might lose because they weigh too little to register on the tubes. Tubes might be a traffic hazard for bicyclists.
- Losers: If this becomes popular as ART, we might attract more drivers to the neighborhood and create congestion, but they would be necessarily driving under the limit. Also, by moving the unit(s) the impacts would be temporary.
- Losers: The illiterate won't be able to read the messages.
- Losers: Those who speed anyway.

Research results and discussion

Web searches conclude that visual cues like street painting, driver feedback signs, and so forth are more effective in the long run than speed bumps.

Attention getters

“More than 96.5 percent said they strongly agree (66.7%) or agree (30%) that driver feedback signs are effective in reducing traffic speeds on residential streets. This is compared to only 3.3 percent that strongly agree (and 33.3 % that agree) that speed bumps are effective. Rumble strips were ranked as being least effective.

Respondents perceived "Police with radar guns" as being the most expensive traffic-calming option. "Speed bumps" were perceived as being the least expensive.

Driver feedback signs were ranked as having the most immediate and long-lasting effect on calming traffic. This was followed in order by "Police with radar guns," "speed bumps," "static speed limit signs," and "rumble strips.”” Quotes and charts below from:

http://www.stopspeeders.org/news_feb_06.htm

Important insight, courtesy of Greg Raisman: The data from surveys like this one is suspect because it is subjective: those who answer the survey might want to seem more law-abiding than they really are. Data from observable, measurable changes are much more relevant.

The following provides detailed results of questions asked in the survey.

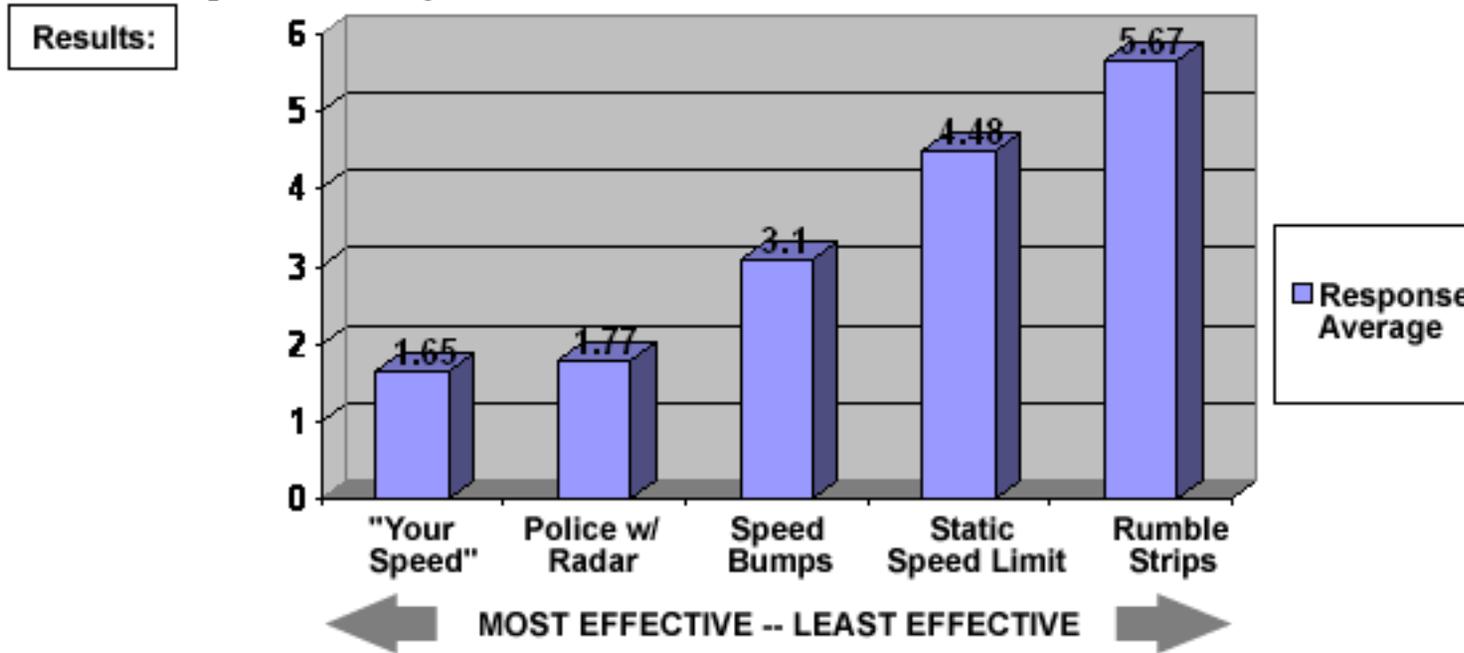
1. Number in order from 1 to 5 the IMMEDIATE IMPACT that you believe the following options have on reducing average traffic speed on RESIDENTIAL STREETS AND AROUND SCHOOL YARDS & PLAYGROUNDS (1-most immediate impact; 5 = least immediate impact).

- Rumble strips
- Police w/ radar guns
- Speed limit signs
- "Your Speed" (driver feedback) signs
- Speed bumps
- Static speed limit signs



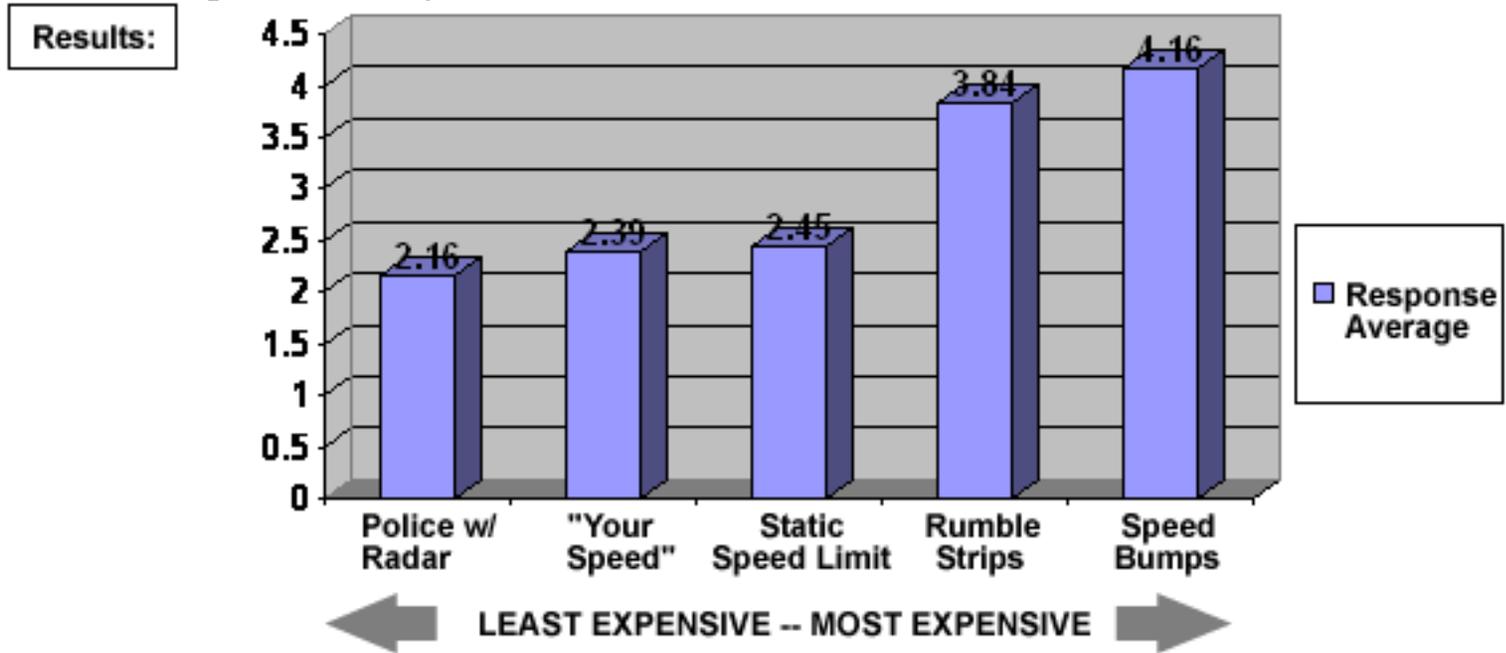
2. Number in order from 1 to 5 the LONG-TERM EFFECTIVENESS that you believe the following options have on reducing speeds on RESIDENTIAL STREETS AND AROUND SCHOOL YARDS & PLAYGROUNDS (1 = most impact over time; 5 = least impact over time).

- Rumble strips
- Police w/ radar guns
- Speed limit signs
- "Your Speed" (driver feedback) signs
- Speed bumps
- Static speed limit signs



3. List in order from 1 to 5 what you believe to be the most expensive (1) to the least expensive (5) solutions (total cost) for the following calming strategies.

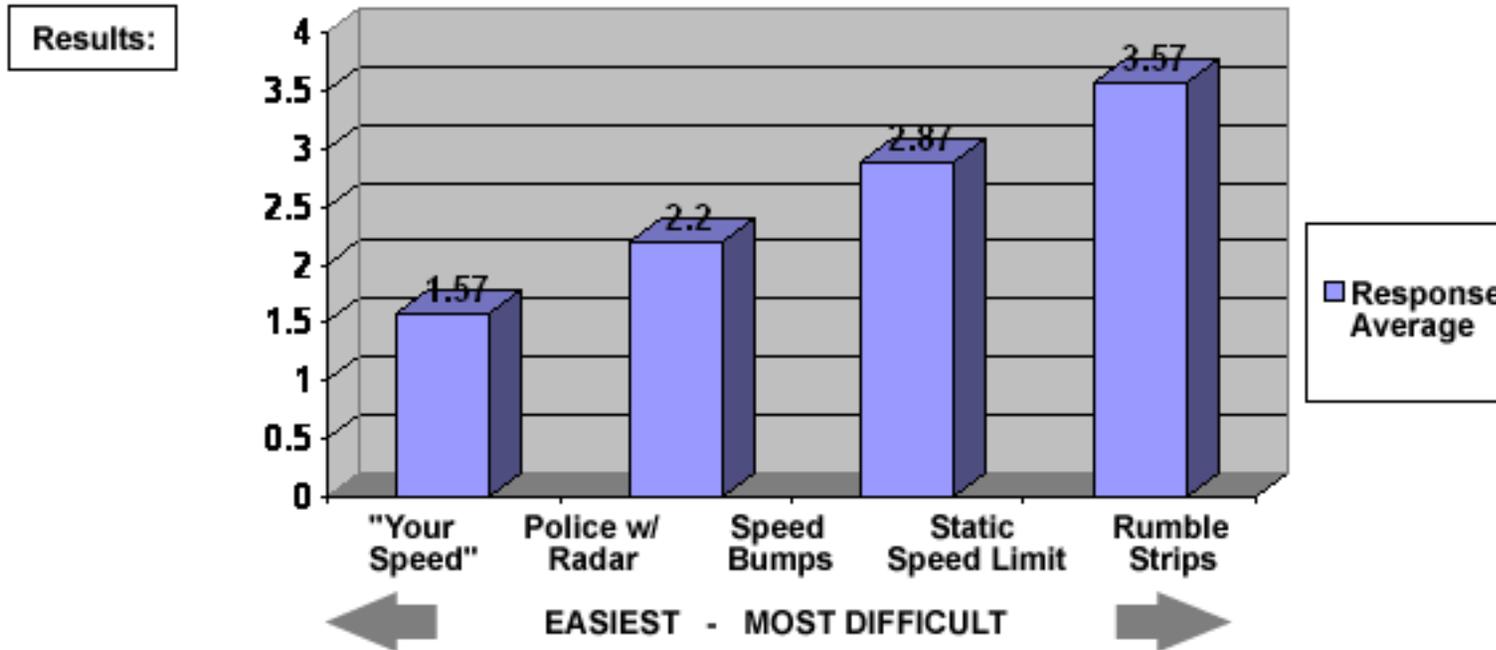
- Rumble strips
- Police w/ radar guns
- Speed limit signs
- "Your Speed" (driver feedback) signs
- Speed bumps
- Static speed limit signs



4. List in order from 1 to 5 what you believe to be the ease of implementation for the following traffic calming options (1 = easiest to implement; 5 = most difficult to implement).

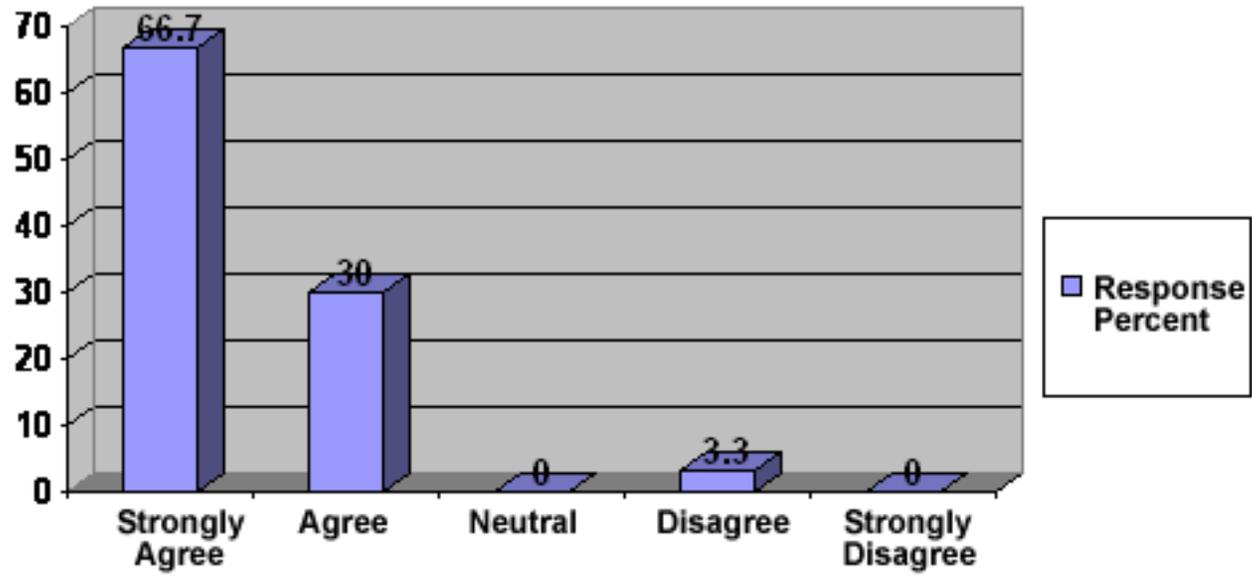
- Rumble strips
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- Speed limit signs
- "Your Speed" (driver feedback) signs
- Speed bumps
- Static speed limit signs



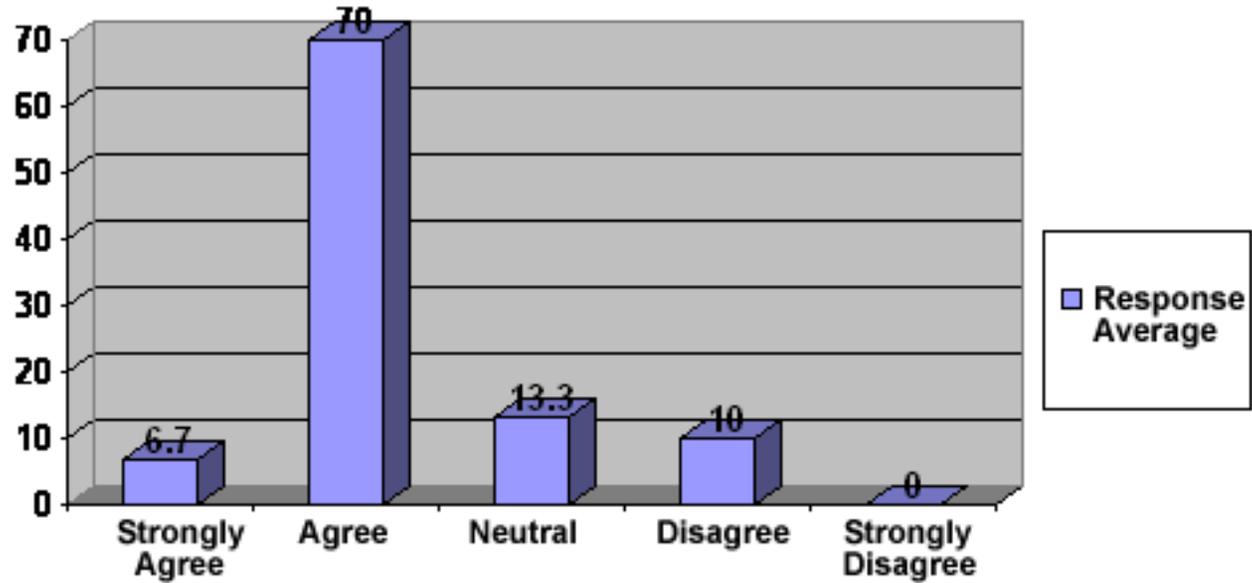
5. Choose one of the answers below that best describes your response to the following question: "Your Speed" (driver feedback) signs are effective in reducing traffic speeds on RESIDENTIAL STREETS AND AROUND SCHOOL YARDS & PLAYGROUNDS.

Results:

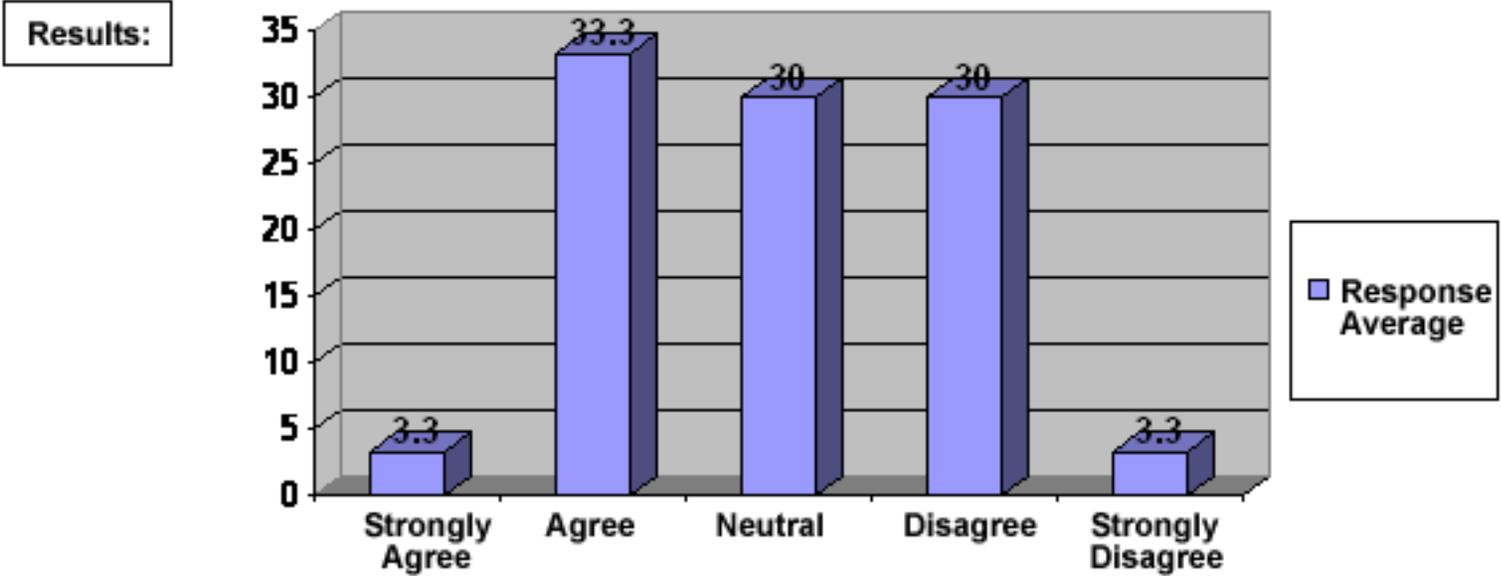


6. Choose one of the answers below that best describes your response to the following question: "Your Speed" (driver feedback) signs are effective in reducing traffic speeds on MULTI-LANE ROADS AND HIGHWAYS.

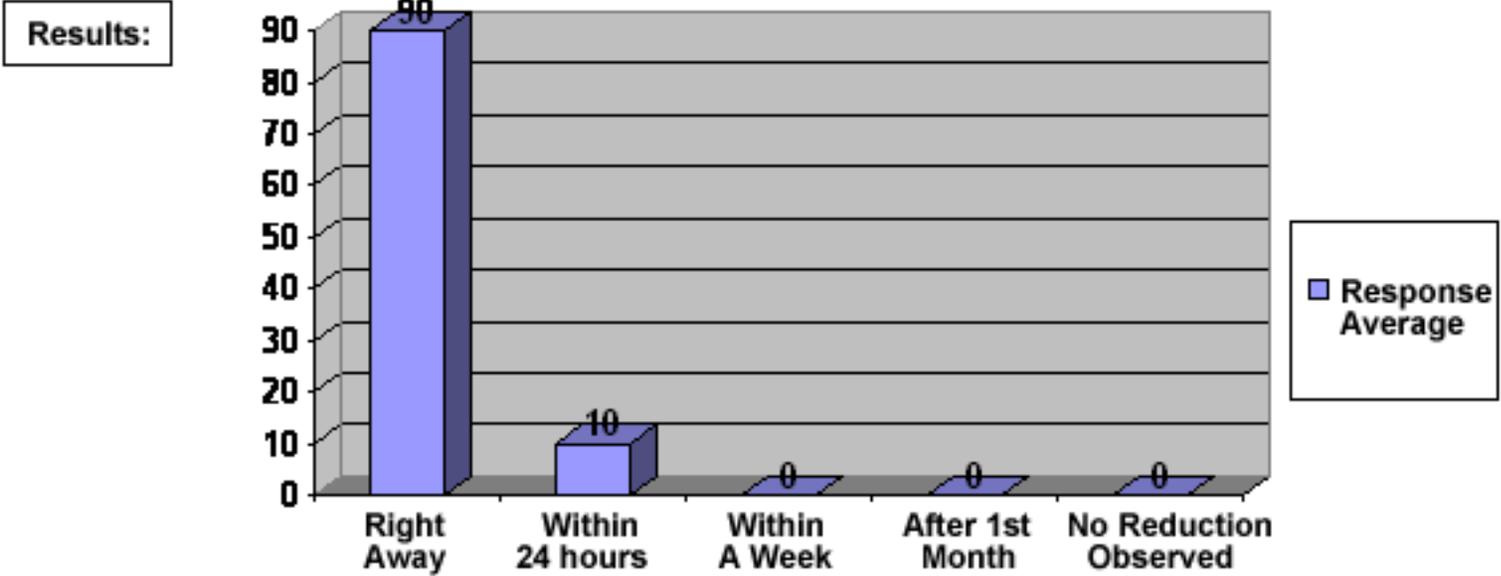
Results:



7. Choose one of the answers below that best describes your response to the following question: The use of speed bumps is effective in reducing traffic speeds on RESIDENTIAL STREETS AND AROUND SCHOOL YARDS & PLAYGROUNDS.

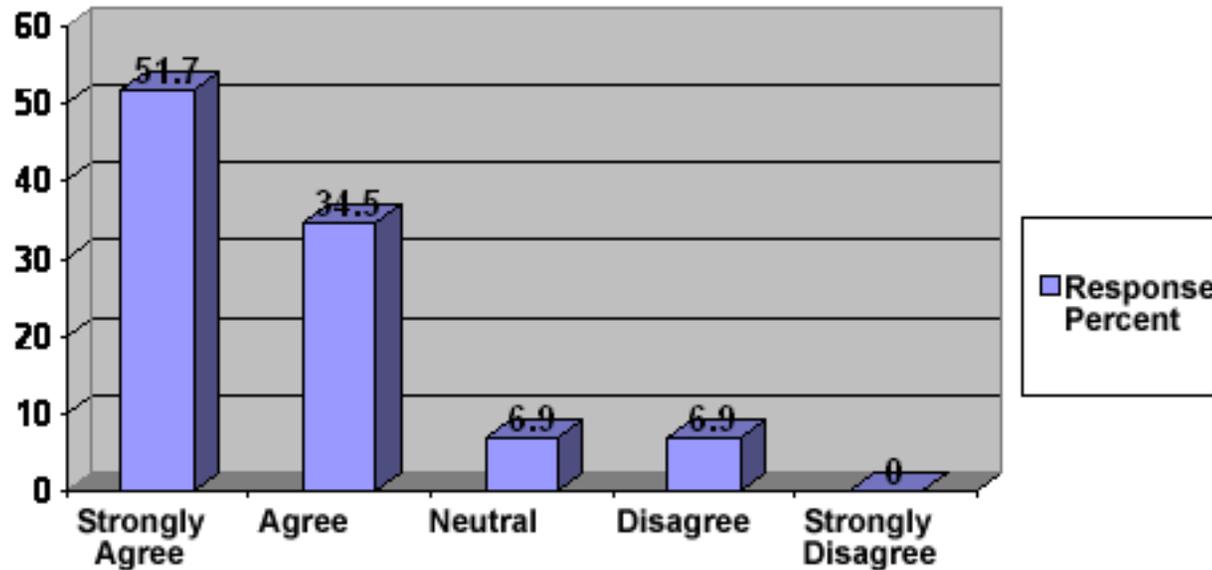


8. Choose one of the answers below that best describes your response to the following question: After installing a "Your Speed" (driver feedback) sign on a residential street or around a playground or school yard, a reduction in average traffic speeds is typically observed...

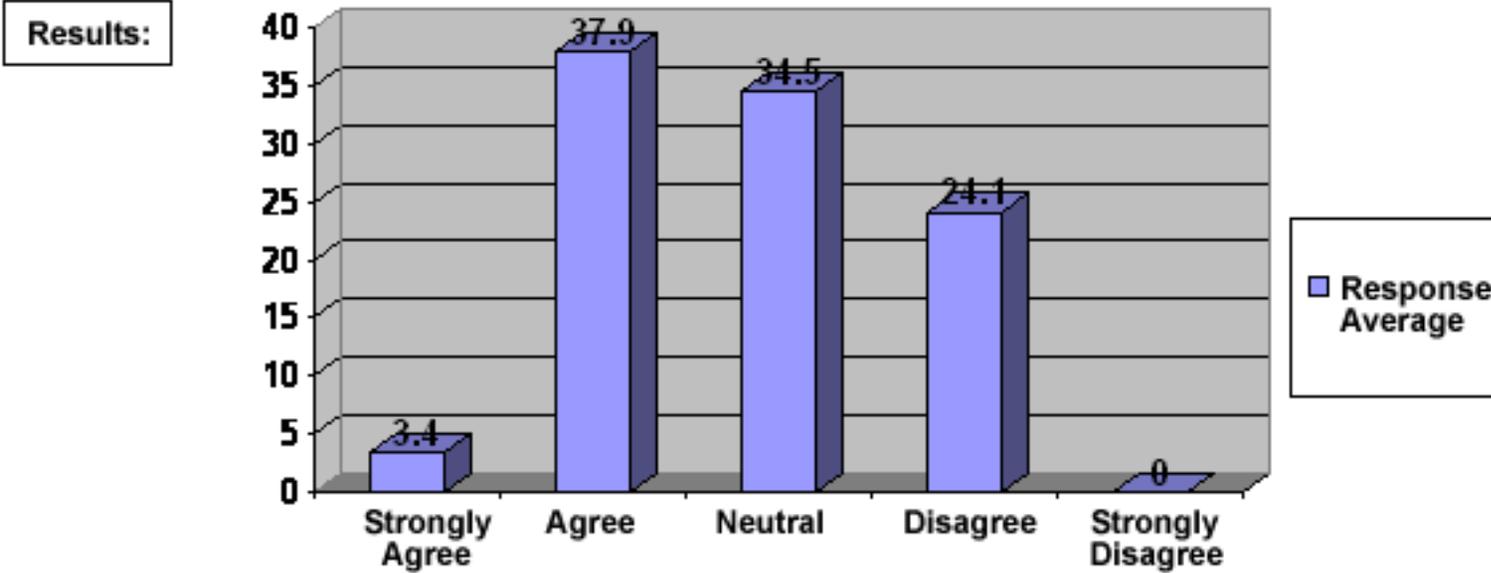


9. Choose one of the answers below that best describes your response to the following question: "Your Speed" (driver feedback) signs have a LONG-LASTING effect on reducing traffic speeds on RESIDENTIAL STREETS AND AROUND SCHOOL YARDS & PLAYGROUNDS.

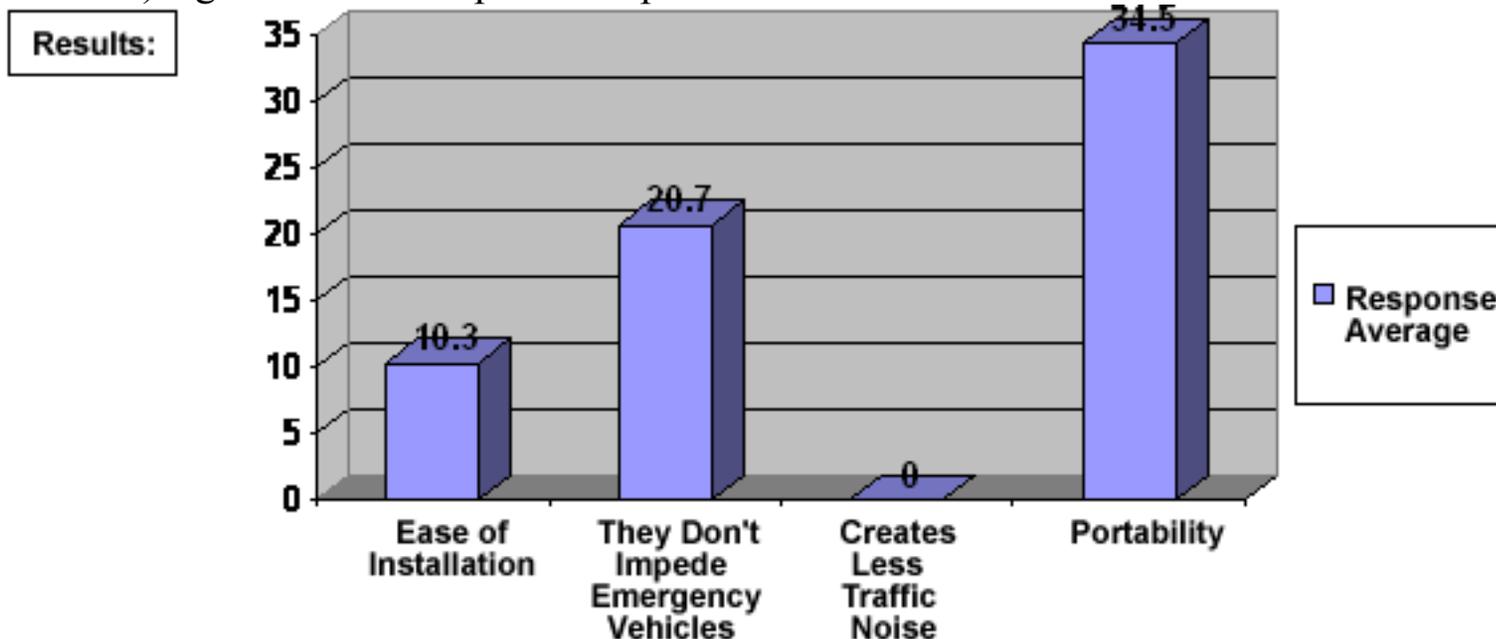
Results:



10. Choose one of the answers below that best describes your response to the following question: Speed bumps or rumble strips have a LONG-LASTING effect on reducing traffic speeds on RESIDENTIAL STREETS AND AROUND SCHOOL YARDS & PLAYGROUNDS.



11. Choose all responses that apply: The biggest ADVANTAGES to using "Your Speed" (driver feedback) signs rather than speed bumps to slow traffic include...



Additional quotes of interest.

The signs read, "Hit my kid or my pet because you're speeding and you won't need a lawyer." <http://www.click2houston.com/news/katy-neighbors-put-up-signs-to-stop-speeders/26332682>

“Just because the neighborhood is HOA run doesn't mean that the streets are also HOA run...BUT...many years ago a client of mine showed me how an old kids bike placed in the street, a bit off to the side, would bring traffic to a crawl...everyone just assumes a kid is nearby...he would put the bike out in the morning and bring it in in the evening. [A] baseball bat was also used (laid in the street, not across someones windshield) people recognize kids toys and slow down. [I]’ve done it myself and it works.”

“If there are handicap[sp] people in the area, especially if someone is blind or deaf, have a sign that says something about this to drivers. I have seen similar signs in certain neighborhoods and people generally respect those type of signs. It not only makes them slow down, but when I see a sign like that, I also look carefully for any person who might not see or hear me coming.”

“Park on the street. It is amazing how slow folks will go when they have to navigate through cars that are "randomly" parked on the street narrowing the "track" to 1 car width + a few inches on either side. Eventually the folks kinda get the message and stop using your street. “

(Taken from USA internet question and answer pages

http://www.trulia.com/voices/Crime_and_Safety/Any_secrets_to_getting_speeders_to_SLOW_DOWN_on_pr-5201)

Most expensive of all are street modifications, speed bumps, curb extensions, and planter basins. [https://www.youtube.com/watch?v=K1umvRline0&spfreload=10%20Message%3A%20JSON%20Parse%20error%3A%20Unexpected%20EOF%20\(url%3A%20https%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3DK1umvRline0\)](https://www.youtube.com/watch?v=K1umvRline0&spfreload=10%20Message%3A%20JSON%20Parse%20error%3A%20Unexpected%20EOF%20(url%3A%20https%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3DK1umvRline0))

Art for Traffic Calming

In Woodlawn we have two painted intersections: one at 8th and Holland, [<https://ssl.panoramio.com/photo/96587909>] and the other at 8th and Holman [<https://www.google.com/maps/place/@45.5682429,-122.6574127,3a,75y,175.41h,90t/data=!3m4!1e1!3m2!1sDPGL1DzPgQ2iN6uXNxxP8A!2e0!4m5!1m2!2m1!1s806+NE+Holman+St+intersection+painting!3m1!1s0x5495a70289e3173b:0x991ab004c91a047b>]. We have no statistics as to whether these helped to calm traffic. They did help bring about community, with neighbors meeting neighbors to do the paintings and re-paintings.

A neighbor suggested that residents with the means might want to purchase or make yard sculptures that depict scenes from Woodlawn's interesting transportation history. Extending the railroad from downtown Portland into the then-separate Town of Woodlawn made its fortune. The streets in Woodlawn were angled to match the route of the train that headed north to Hayden Island. The Woodlawn Triangle block was first used for the train station and the Town of Woodlawn grew up around that center point, providing a hotel, grocery, drug store and other amenities within a few blocks of the station. People might slow to view the yard art.

The Woodlawn Triangle Master Plan

In 2008 the Woodlawn Triangle Master Plan [<https://www.portlandoregon.gov/bps/article/183981>] proposed various crosswalks, medians, and islands to be installed to help control traffic. Much of the proposed work around the Triangle wasn't done but the traffic calmer at Dekum and Bellevue was installed, without

greenery. One of the suggestions in the plan was to replace bare concrete traffic median surfaces with landscaping. When I asked City Planner Nan Stark if there is a source for funding some of the approved Master Plan projects, she thought of the TSP Major System Improvement input process going on. She contacted Zef Wagner. According to Zef Wagner of the City Policy, Planning, Projects Division “Generally speaking, small-scale traffic calming improvements like those found in the Woodlawn Master Plan are not included in the TSP Major System Improvements list of projects.” Since the Triangle has changed and developed greatly since this plan was written, some of the projects are moot.

Maybe this could be submitted to the Volkswagen Fun Theory for entry into its contest for funding. Or it could be submitted to a funding site such as Kickstarter or FundMe. Or a grant from the Regional Arts Council.

Thanks to Nan Stark (“I don’t know if this project would work or if there’s funding for the master plan”), Zef Wagner (There’s no funding for the Triangle Master Plan in the TSP (No number 1)), Tom Jensen, Traffic Data Division (information about pneumatic tubes and right of ways), and Ivy Dunlap (can’t use % for Green dollars for this potential project (No number 2)) for your responses. Especially enthusiastic thanks to **Greg Raisman**, Traffic Safety Specialist, Portland Bureau of Transportation, for insights into data uncertainty in studies such as I quoted, into the effectiveness of stop signs and other traffic calmers, and into the YEARS LONG PROCESSES required to get something approved by the Federal Government. (No number 3, in that moving the art quickly as I suggested will make traffic calming effectiveness data collection impossible.)



“Love like a shadow flies
when substance love
pursues, Pursuing that
that flies and flying what
pursues.” Shakespeare