- SAMPLE NEWS RELEAS

NATIONAL NIGHT OUT: August 7th; (OCTOBER: October 2nd)
[Your City] TO JOIN CITIES NATIONWIDE FOR
'AMERICA'S NIGHT OUT AGAINST CRIME'

On Tuesday, August 7th (OCTOBER: October 2nd), neighborhoods throughout [YOUR CITY] are being invited to join forces with thousands of communities nationwide for the **"35th Annual National Night Out"** (NNO) crime and drug prevention event. National Night Out, which is sponsored by the National Association of Town Watch (NATW) and co-sponsored locally by [YOUR AGENCY/ORGANIZATION], will involve over 16,500 communities from all 50 states, U.S. territories, Canadian cities and military bases around the world. In all, over 38.5 million people are expected to participate in 'America's Night Out Against Crime'. NNO 2018 corporate sponsors are **Dietz & Watson, Ring, Associa** and **Package Guard.**

National Night Out is designed to: (1) Heighten crime and drug prevention awareness; (2) Generate support for, and participation in, local anticrime efforts; (3) Strengthen neighborhood spirit and police-community partnerships; and (4) Send a message to criminals letting them know neighborhoods are organized and fighting back.

From 7 to 10 p.m. on August 7th, residents in neighborhoods throughout [YOUR CITY] and across the nation, are asked to lock their doors, turn on outside lights and spend the evening outside with neighbors and police. Many neighborhoods throughout [YOUR CITY] will be hosting a variety of special events such as block parties, cookouts, parades, visits from police, flashlight walks, contests, youth activities and anticrime rallies.

National Project Coordinator Matt Peskin said, "This is a night for America to stand together to promote awareness, safety and neighborhood unity. National Night Out showcases the vital importance of police-community partnerships and citizen involvement in our fight to build a safer nation. On NNO, we invite neighborhoods nationwide to join us in *Giving Crime & Drugs A Going Away Party."*

Offer information in this paragraph about your local NNO activities, programs and events. Provide local contacts and phone numbers for additional local information. Encourage residents, block clubs, local businesses, community groups, etc. to get in touch with your coordinating organization.

Present "Project 365" to the media and to your community. Explain the concept and offer information /updates about your community's participation. (If your area became involved in "365" last year, announce results. If you're new to "365", announce your target area or problem.)

Remember... The more interesting and exciting your local news release reads, the more effective you will be in generating coverage.

Contact: Your Coordinator, Your Agency, Phone Number
Optional: National Association of Town Watch / (610) 649-7055 / www.nationalnightout.org

"Sample" Proclamation

NATIONAL NIGHT OUT 2018

WHEREAS, the National Association of Town Watch (NATW) is sponsoring a unique, nationwide crime, drug and violence prevention program on August 7th, 2018 (OCTOBER: October 2nd) entitled "National Night Out"; and

WHEREAS, the "35th Annual National Night Out" provides a unique opportunity for [YOUR CITY/COUNTY] to join forces with thousands of other communities across the country in promoting cooperative, police-community crime prevention efforts; and

WHEREAS, [YOUR ORGANIZATION] plays a vital role in assisting the [LOCAL POLICE/SHERIFF'S DEPARTMENT] through joint crime, drug and violence prevention efforts in [YOUR CITY/COUNTY] and is supporting "National Night Out 2018" locally; and

WHEREAS, it is essential that all citizens of [YOUR CITY/COUNTY] be aware of the importance of crime prevention programs and impact that their participation can have on reducing crime, drugs and violence in [YOUR CITY/COUNTY]; and

WHEREAS, police-community partnerships, neighborhood safety, awareness and cooperation are important themes of the "National Night Out" program;

NOW, THEREFORE I/WE, [MAYOR/COMMISSIONERS], do hereby call upon all citizens of [YOUR CITY/COUNTY] to join [YOUR ORGANIZATION], the National Association of Town Watch in supporting "35th Annual National Night Out" on August 7th, 2018 (OCTOBER: October 2nd).

FURTHER, LET IT BE RESOLVED THAT, I/WE, [MAYOR/COMMISSIONERS], do hereby proclaim Tuesday, August 7th, 2018 (OCTOBER: October 2nd) as "NATIONAL NIGHT OUT" in [YOUR CITY/COUNTY].

_____
Secretary / Clerk

_____
Mayor / President

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SCIENTIFIC REPORTS

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Impact of Drinking Water Fluoride on Human Thyroid Hormones: A Case- Control Study

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Zohreh Kheradpisheh[1], Masoud Mirzaei[2], Amir Hossein Mahvi[3,4], Mehdi Mokhtari[1], Reyhane Azizi[5], Hossein Fallahzadeh[6] & Mohammad Hassan Ehrampoush[1]

The elevated fluoride from drinking water impacts on T_3, T_4 and TSH hormones. The aim was study impacts of drinking water fluoride on T_3, T_4 and TSH hormones inYGA (Yazd Greater Area). In this case- control study 198 cases and 213 controls were selected. Fluoride was determined by the SPADNS Colorimetric Method. T_3, T_4 and TSH hormones tested in the Yazd central laboratory by RIA (Radio Immuno Assay) method. The average amount of TSH and T_3 hormones based on the levels of fluoride in two concentration levels 0–0.29 and 0.3–0.5 (mg/L) was statistically significant (P = 0.001 for controls and P = 0.001 for cases). In multivariate regression logistic analysis, independent variable associated with Hypothyroidism were: gender (odds ratio: 2.5, CI 95%: 1.6–3.9), family history of thyroid disease (odds ratio: 2.7, CI 95%: 1.6–4.6), exercise (odds ratio: 5.34, CI 95%: 3.2–9), Diabetes (odds ratio: 3.7, CI 95%: 1.7–8), Hypertension (odds ratio: 3.2, CI 95%: 1.3–8.2), water consumption (odds ratio: 4, CI 95%: 1.2–14). It was found that fluoride has impacts on TSH, T_3 hormones even in the standard concentration of less than 0.5 mg/L. Application of standard household water purification devices was recommended for hypothyroidism.

Over the past decade, several studies have focused on the effects of environmental toxins on the human endocrine system, including the impact of fluoride on the thyroid gland[1,2]. Globally, millions of people suffer from thyroid-related problems. When the thyroid gland does not function properly, it can affect multiple aspects of our health[3–5]. The most important effect is thyroid complications in pregnant women. Uncontrolled hypothyroidism can raise the blood pressure during late pregnancy, increase the risk of miscarriage and preterm delivery, and affect brain development and growth rate[3–5]. The incidence of thyroid cancer has risen from 2% to 5% per decade. If this trend continues, thyroid cancer may become the fourth most common cancer in the United States by 2030[6]. The incidence rate of this type of cancer is two times more in high-income and middle-income countries as compared to low-income countries. It has a three to four time's higher probability of occurring in women than in men[6]. The adverse effects of fluoride on animal and human health are well documented in the literature[7,8]. The effects of high fluoride ingestion through drinking water, green tea, and ambient air pollution on thyroid hormones (T3, T4, TH, and TSH) were investigated in both humans and animals. Some studies reported a reduction in the T4 and T3 levels as well as an abnormal increase in the TSH levels[9–15]. Ruiz-Payan *et al.*[16] said that even at 1 mg/L of fluoride in water, T3 levels reduced in teenagers living in Northern Mexico[16]. During the years 2007–2016, the Parents of Fluoride Poisoned Children (PFPC) has reported over 190 studies on the effects of fluoride on thyroid hormones, including studies on both animals and humans[17]. Some studies have discovered the relation between dental fluorosis and thyroid disease[18–23]. The effect of thyroid hormones on learning memory was investigated in rats by Basha *et al.*[24]. They found that fluoride reduces the T4 and T3 levels, and has generational and cumulative effects on the development of the offspring[24].

[1]Environmental Science and Technology Research Center, Department of Environmental Health Engineering, Shahid Sadoughi University of Medical Sciences, Yazd, Iran. [2]Yazd Cardiovascular Research Center, Shahid Sadoughi University of Medical Sciences, Yazd, Iran. [3]School of Public Health, Tehran University of Medical Sciences, Tehran, Iran. [4]Center for Solid Waste Research, Institute for Environmental Research, Tehran University of Medical Sciences, Tehran, Iran. [5]Department of Endocrinology Shahid Sadoughi University of Medical Sciences, Yazd, Iran. [6]Department of Biostatistics, Shahid Sadoughi University of Medical Sciences, Yazd, Iran. Correspondence and requests for materials should be addressed to A.H.M. (email: ahmahvi@yahoo.com) or M.H.E. (email: ehram2000@yahoo.com)

Yazd Greater Area (YGA) is located in the Yazd province of Iran, which uses groundwater as the primary water source. There are several wells in this region with different fluoride concentrations[25]. The halogen fluoride may enter the drinking water through human resources but its main medium is through natural resources, such as minerals, as well as geothermal and atmospheric means. The earth's crust contains 0.3 g/kg of fluoride while the atmosphere has about 3 ng/m^3 [8,26,27]. The concentration of fluoride in drinking water is very important for the health of the people as it is one of the important resources containing this halogen[9]. Iran's drinking water standard for fluoride is less than 1.5 mg/L in two liters per day for adults. This guideline has been recommended by the World Health Organization (WHO)[8]. This problem persists in the Third World and even in developed countries due to the lack of proper information about the potential effects of fluoride on human health. There is no published research in this field in Iran. The optimal dose for fluoride intake from drinking water depends on the various types of diets in different countries; it is also dependent on climate change. Meanwhile, thyroid diseases are related to human race and gender[28,29]. Therefore, it is beneficial to conduct this study in Iran. The purpose of this case-control study was to determine the correlation between thyroid hormones and the presence of fluoride in drinking water in YGA. This area was chosen because the wells in this area have water with different fluoride concentrations. Hence, the selection of cases and controls from the same region with similar diets, race, and gender, as well as climatic and geographical change, is possible.

Results and Discussion

The spline GIS model was used to evaluate the distribution of fluoride levels in the drinking water samples from YGA. As mentioned, all the samples of drinking water from YGA had fluoride levels lower than the maximum permissible level of the world standard concentration and equal to the Iranian standard (0.5–1.5 mg/L)[8].

The results are shown in Fig. 1. This figure shows the zoning of water samples and fluoride levels in different parts of YGA. As mentioned, 10 distinct locations were chosen according to the difference in the concentration of fluoride in drinking water. In each season, 30 samples were taken from 10 districts (three samples from each district). Hence, in two seasons, a total of 60 samples were collected (summer and winter). Each sample was tested thrice. The total number of tests to determine the fluoride concentration was 180. The Kolmogorov–Smirnov test was used to evaluate the normality of the data, and it was found that the data was not normally distributed for $P < 0.05$. Therefore, non-parametric tests (Kruskal–Wallis (were used to analyze the same. The median (interquartile range) of fluoride, and the temperature and pH of the drinking water have been shown in Table 1.

Out of the 8,724 YaHS samples that were studied until October 2015, a total of 693 (8%) participants had thyroid problems, while 70% had hypothyroidism. Among the participants who had no thyroid problems, as diagnosed by a doctor, 228 people were chosen and their TSH, T_3, and T_4 hormone levels were tested. The results showed that 213 of the participants were healthy, whereas 15 (6.6%) were sick. Among the latter, 11 (4.8%) suffered from hypothyroidism while four (1.8%) had hyperthyroidism. These 15 sick participants were removed from the controls. The distribution of different kinds of thyroid diseases in the 265 cases include 198 (74.7%) with hypothyroidism, 10 (3.7%) with hyperthyroidism, 27 (10.2%) with thyroid nodules, and one (0.37%) with thyroid cancer. As per the scope of this study, 198 (74.7%) participants with hypothyroidism were selected for the cases. The distribution frequency of hypothyroidism obtained by the chi-square test was statistically significant for the cases ($P = 0.032$) and controls ($P = 0.024$) at different participant locations in YGA.

Ten distinct locations were chosen according to the difference in the concentration of fluoride in drinking water. These ten distinct locations were contain: Sadoughi, Imam street, Kashani Street, Mahdieh Street, Hamidia Street, Be'sat Street, maskan Street, safaeieh Street, imam Shahr Street, Azad Shahr Street. The frequency distribution of fluoride was statistically significant for the cases ($P = 0.001$) and controls ($P = 0.001$). The frequency distribution of hypothyroidism based on the different levels of fluoride in drinking water was not significant for the cases ($P = 0.13$) and controls ($P = 0.21$) in YGA. The average amount of TSH and T3 hormones based on the fluoride levels in the range of 0–0.29 mg/L and 0.3–0.5 mg/L was significant. However, it was not significant for the T4 hormone in the case and control groups as shown in Table 2.

As shown in Table 2, the median ± interquartile range (IR) of TSH and T3 was significant on two levels of fluoride in drinking water ($P < 0.05$). Hence, it can be concluded that the halogen has an impact on human thyroid hormones. At a concentration of below 0.5 mg/L, however, it is not an important factor for hypothyroidism in YGA. This finding confirms the results of other studies[10–16,30]. The mean of the TSH hormone level, according to different study variables, is demonstrated in Table 3. For each of the questioned parameters of cases and controls, the OR, confidence interval (CI 95%), and p-value were examined across different case and control groups. The ones with a p-value less than 0.2 were used on the final logistic model. Finally, 14 parameters were entered into the final logistic model: sex, family history of thyroid disease, education and job status, quantity of drinking water, exercise, tobacco use, living place, and disease history, such as hyperlipidemia, diabetes, hypertension, polycystic, psychiatric, and depression. The adjusted odds ratio (OR), confidence interval (CI 95%), and p-value from the logistic model among the case and control groups were estimated for other fluoride intake sources, apart from water—such as toothpaste, mouthwashes, and some foods that contain fluoride (tea, cabbage, broccoli, turnip, soya, peanut, spinach, type of consumed fish, amount of consumed fish, type of consumed salt). Except for the 14 parameters that have been mentioned, other parameters had a p-value of more than 0.2, and were not used in the final logistic model. The final model was developed using multiple logistic regression modeling, as well as enter and forward LR methods. The results of the multiple logistic regression model with the p-value, adjusted OR, and confidence intervals (CI 95%) are shown in Table 4.

As shown in Table 4, the variables that had greater effects on thyroid diseases remained in the model, such as gender, family history of thyroid disease, amount of water consumption, physical activity, as well as diseases such as type 2 diabetes and hypertension. The adjusted OR of hypothyroidism was 2.5 (CI 95%: 1.6–3.9) times greater in females, which is in agreement with another study[31]. The adjusted OR of hypothyroidism for those with a family history of hypothyroidism was 2.7 times (CI 95%: 1.6–4.6) higher than others. The adjusted OR of

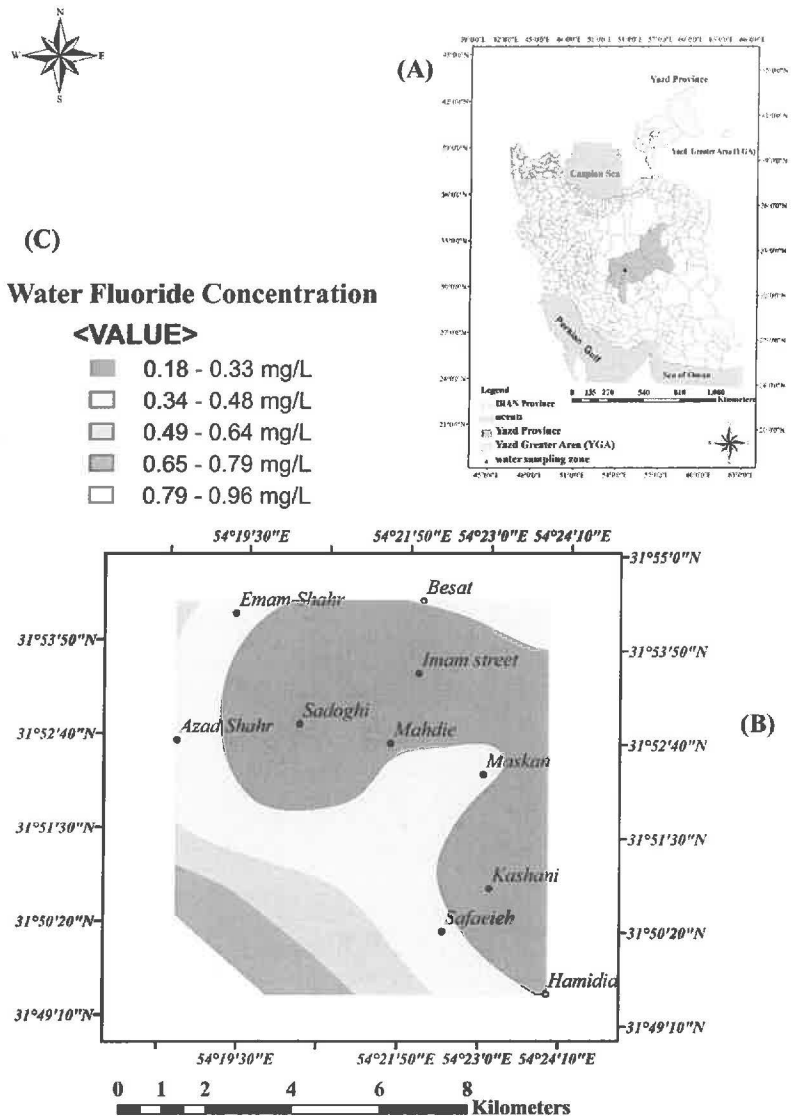

Figure 1. Zoning of fluoride levels in drinking water sampling in Yazd Greater Area (YGA) by Spline GIS model by Arc GIS 10 in Iran in 2016 (**A**) map of Iran and location of YGA (**B**) Spline GIS model for drinking water fluoride in ten distinct (**C**) water fluoride concentration.

Variable	Case Median(IR)	Control Median(IR)*	P Value
Fluoride	0.07 ± 0.38	0.07 ± 0.35	0.94
Temperature	0.6 ± 19.3	6 ± 19.3	0.16
pH	0.63 ± 7.3	0.56 ± 7.2	0.24

Table 1. Drinking water quality parameters of YGA in case and control groups, YGA (Yazd Greater Area), 2017. *IR, Interquartile range.

hypothyroidism was 5.34 (CI 95%: 3.2–9) times greater for those who were physically inactive as compared to their active counterparts. The adjusted OR of hypothyroidism for diabetic patients was 3.7 (CI 95%: 1.7–8) times higher than in healthy people. The adjusted OR of hypothyroidism for hypertensives was 3.2 (CI 95%: 1.3–8.2) times more than others. Individual fluoride intake from drinking water obviously depends on the amount of water consumed as well as the fluoride concentration in the water. The results showed that those who consume larger amounts of water per day have an adjusted OR of 4.1 (CI 95%: 1.2–14).

This study was the first research based on the correlation between fluoride concentration in drinking water and thyroid hormones in Iran. A positive association was observed between the variables ($P < 0.05$). In this study, we obtained an unadjusted OR of about 1.034 (CI 95%: 0.7–1.53) for fluoride in drinking water when its concentration was less than the standard (0.2–0.5 mg/L). This finding is consistent with the Peckham study in England,

Variable	Case median(IR)*		P Value	Control median(IR)*		P Value
	0–0.29 mg/L	0.3–0.5 mg/L		0–0.29 mg/L	0.3–0.5 mg/L	
T_4	6.56 ± 2.2	7.6 ± 4.3	0.17	8.5 ± 1.2	8.6 ± 1.2	0.45
T_3	115.3 ± 22	117.8 ± 36.6	0.19	135 ± 18.4	138.5 ± 21.6	0.026
TSH	11.85 ± 7	20.5 ± 12.8	0.003	2.2 ± 0.95	2.8 ± 0.9	0.001

Table 2. The amount of T_4, T_3, and TSH hormones based on two levels of fluoride in drinking water in cases and controls, YGA (Yazd Greater Area), 2017. *IR, Interquartile range. The normal range for T_3 hormone is (78–180 ng/dL). The normal range for T_4 hormone is (5.5–12.5 μg/dL). The normal range for TSH hormone is (0.17–4.5 mIU/L).

Characteristics	Case group				Control group			
	N (%)	Mean ± SD	CI (95%)	P Value	N (%)	Mean ± SD	CI (95%)	P Value
Gender								
Male	38 (19.2)	19.32 ± 12.2	13–25.5	0.715[a]	88 (41.3)	2.5 ± 0.92	2.3–2.6	0.12[a]
Female	160 (80.8)	17.3 ± 11.82	14.3–20.2		125 (58.7)	2.6 ± 0.93	2.5–2.8	
Marital statues								
Married	165 (83.3)	18.62 ± 11.3	15.8–21.4	0.094[a]	175 (82.2)	2.53 ± 0.92	2.4–2.7	0.24[a]
Single	22 (11.1)	17.97 ± 14.8	6.7–29.3		29 (13.6)	2.65 ± 1	2.3–3	
Divorced	2 (1)	8.7 ± 9.71	5.4–20.8		2 (0.4)	3.15 ± 1.5	2.3–3.4	
Widow	9 (4.5)	9 ± 10.11	6.2–21.2		7 (3.3)	3.1 ± 0.4	2.7–3.4	
Education								
Primary	12 (6.1)	11.62 ± 5.4	4.5–20	0.452[a]	28 (13.1)	2.5 ± 0.8	2.18–2.81	0.442[a]
Elementary	82 (41.4)	20.2 ± 12.2	15.8–24.6		55 (25.8)	2.42 ± 0.86	2.2–2.7	
Diploma	58 (29.3)	14.8 ± 13.48	8.5–21		102 (47.9)	2.6 ± 0.92	2.45–2.8	
Graduate Diploma	15 (7.6)	15.9 ± 3.9	12.8–18.9		16 (7.5)	2.7 ± 1.2	2–3.5	
B.Sc.	27 (13.6)	19 ± 13	10.5–27.8		12 (5.6)	2.7 ± 1.23	1.95–3.5	
M.Sc. and higher	4 (2)	18.8 ± 12.7	11–26.9		—	—	—	
Occupation								
Self-employment	17 (8.6)	14.7 ± 2.4	8.6–20.7	0.894[a]	46 (21.6)	2.4 ± 0.95	2.1–2.7	0.445[a]
Housewife	131 (66.2)	17.2 ± 12.4	13.7–20.7		110 (51.6)	2.6 ± 0.89	2.5–2.8	
University student	11 (5.6)	16 ± 4.9	9.9–22.1		8 (3.8)	2.8 ± 0.93	2–3.6	
Employee	23 (11.6)	20.8 ± 14.2	13.3–28.4		22 (10.3)	2.7 ± 1.14	2.1–3.2	
Unemployed	16 (8.1)	16.4 ± 1.9	14–18.7		27 (12.7)	2.46 ± 0.89	2.1–2.8	
Age (year)								
20–25	19 (9.6)	18.74 ± 11.1	10–27.2	0.465[a]	21 (9.9)	2.6 ± 0.96	2.2–3	0.253[a]
26–35	50 (25.3)	21.3 ± 13.3	15.5–27		56 (26.3)	2.7 ± 1	2.4–3	
36–45	53 (26.8)	17.6 ± 14.7	10.3–24.9		54 (25.4)	2.4 ± 0.77	2.2–2.62	
46–60	76 (38.4)	14.7 ± 8.1	11.7–17.8		82 (38.5)	2.6 ± 0.9	2.4–2.8	
BMI								
<18.5	12 (6.1)	21.7 ± 12.5	8.5–34.7	0.57[a]	10 (4.7)	2.8 ± 1.1	1.9–3.6	0.68[a]
18.5–24.9	52 (26.3)	16.7 ± 8.2	12.6–20.7		62 (29.1)	2.5 ± 0.88	2.3–2.7	
25–29.9	77 (38.9)	18.3 ± 13	13.5–23.1		91 (42.7)	2.6 ± 0.98	2.4–2.8	
30–39.9	53 (26.8)	16.7 ± 12.7	11.45–21.9		49 (23)	2.5 ± 0.86	2.3–2.8	
>40	4 (2)	18.9 ± 12.7	13–22.9		1 (0.5)	—	—	
Fluoride Level								
0–0.29 mg/L	59 (29.8)	11.85 ± 7	8.9–14.8	0.003[a]	65 (30.5)	2.2 ± 0.95	1.9–2.4	0.001[a]
0.3–0.5 mg/L	139 (70.2)	20.4 ± 12.65	16.9–23.8		148 (69.5)	2.75 ± 0.88	2.6–2.9	

Table 3. Mean of TSH hormone according to different study variables, YGA (Yazd Greater Area), 2017. [a]Kruskal-Wallis test.

which reported OR = 1.5 (CI 95%: 1.16–2) for hypothyroidism, where the maximum fluoride concentration was more than 0.7 mg/L. However, it is not clear due to the small difference in the concentration of fluoride, as can be seen from the correlation between fluoride in drinking water and the TSH hormone as shown in Table 2[32].

Conclusion and Recommendation

This paper compares measurements of the average amount of thyroid hormones (T3, T4, and TSH) in people with thyroid disease (specifically, hypothyroidism) and people without thyroid disease, with respect to fluoride

Variable	Variable subgroups	(OR)*	(CI 95%)**	P Value
Gender	Male	1		0.0001
	Female	2.5	1.6–3.9	
Family history of Thyroid Disease	No	1		0.0001
	Yes	2.7	1.6–4.6	
Amount of Water Consumption	One glass	1		0.001
	2–3 glass	1.73	0.5–5.9	0.382
	4–5 glass	4.1	1.2–14	0.024
	More than 5 glass	3.25	0.8–11.9	0.075
Exercise	Yes	1		0.0001
	No	5.34	3.2–9	0.0001
	Sometimes	3.66	2–6.6	0.001
Diabetes	No	1		0.001
	Yes	3.68	1.7–8	
Hypertension	No	1		0.013
	Yes	3.22	1.3–8.2	
Drinking Water Fluoride	0–0.29 mg/L	1		0.86
	0.3–0.5 mg/L	1.034	0.7–1.53	

Table 4. The results of multiple logistic regressions model for factors affecting the hypothyroidism in case and control groups, YGA (Yazd Greater Area), 2017. *Logistic Model (Enter), Adjusted odds ratio (OR), **Confidence intervals (CI 95%).

concentrations in two levels 0–0.29 and 0.3–0.5 (mg/L) in drinking water and several other variables (gender, family history, water consumption, exercise, other disease conditions).

The major finding of this study is that TSH values are higher with a higher fluoride concentration in the drinking water, even for generally low fluoride concentrations. This is seen both in cases of untreated hypothyroidism and in controls. In multivariate regression logistic analysis, the independent variables associated with hypothyroidism were: gender (odds ratio: 2.5, CI 95%: 1.6–3.9), family history of thyroid disease (odds ratio: 2.7, CI 95%: 1.6–4.6), exercise (odds ratio: 5.34, CI 95%: 3.2–9), diabetes (odds ratio: 3.7, CI 95%: 1.7–8), hypertension (odds ratio: 3.2, CI 95%:1.3–8.2), amount of water consumed per day (odds ratio: 4, CI 95%: 1.2–14).

In other words, cases tend to have higher TSH values (greater impairment of thyroid function) with higher fluoride concentrations in the water. Controls, with normal thyroid function, also have higher TSH values with higher fluoride concentrations, even though their TSH values are still within the normal range. TSH values are higher (in both cases and controls) with higher levels of water consumption. This is consistent with an association between increased fluoride intake (due to increased water consumption) and increased TSH. It was found that F impacts human thyroid hormones, especially TSH and T3 even in the standard concentration of less than 0.5 mg/L.

Even after the addition of iodine to salt by the integrated program in Iran more than 27 years ago, this study showed that the problem remains unsolved. The results showed that those who consume larger amounts of water per day have an adjusted OR of 4.1 (1.2–14). Hence, the application of standard household water purification (such as reversed osmosis, electro dialysis, activated carbon filter, and other adsorption/ion-exchange methods) is recommended for patients with hypothyroidism since they have a higher consumption of drinking water. The purification systems can help remove fluoride that interferes with thyroid functions.

Materials and Methods

This study was a case-control study, aimed at determining the correlation between thyroid hormones and fluoride levels in the drinking water in YGA. We ensured that all the methods were carried out in accordance with the relevant guidelines and regulations.

Study area. Iran has four distinct climatic regions: moderate and humid, warm and dry, cold and mountainous, and warm and wet[33]. It has 31 provinces, and is located between 24°N and 40°N (latitude) and 44°E and 64°E (longitude)[34]. YGA is an area in the Yazd province of Iran. It is subdivided into four cities—namely Yazd, Zarch, Shahediyeh, and Hamidiya[34]. Yazd is one of the warm and dry cities of Iran with average rainfall of 60 mm (2.4 in) per year or 5 mm (0.2 in) per month. Its driest weather occurs in August, during the summer, with average rainfall of 0 mm (0 in), temperatures above 40 °C (104 °F) in blazing sunshine, and humidity less than 2%. Its mean ± SD of fluoride present in drinking water is 0.5 mg/L ± 0.27[8,27,35]. The main sources of drinking water are different wells with varying fluoride concentrations. This makes YGA an ideal area for this study.

Sample size. The cases and controls were chosen from the Yazd Healthy Study (YaHS) project. YaHS is a prospective study that examines the health of people from YGA in 2014–2016. The total number of YaHS participants was 10,000, with people aged between 20 and 70 years, who were selected through the cluster sampling method. Details of Yazd Health Study has been published else where[36]. The cases consist of participants with thyroidal diseases, who were not yet being treated. The participants in the control group belonged to the YaHS project, and were aged 20–60 years. The participants in the control group did not suffer from any thyroid disease. The

Peckham study was selected to calculate the sample size[32]. Out of the 8,724 YaHS participants, 693 people (8%) reported various thyroid diseases diagnosed by a doctor. From these, 198 cases and 213 controls were selected.

Investigation stages. To collect data, a standard questionnaire was prepared containing 68 questions of parameters that were thought to impact the thyroid gland or were sources of fluoride intake. All the participants (cases and controls) were requested to answer the same. The parameters included: age, sex, education, BMI, condition of pregnancy, diet, job status, salary, family history of thyroid-related diseases, any other disease that may have led to thyroid operation (metabolism or autoimmune disease, cholesterol disease, diabetes, blood pressure disease, polycystic disease, liver and kidney disease, neurology disease, depression, hepatitis disease, cardiovascular disease), place of residence, exercise, smoking, alcohol and drug intake, daily, weekly, and monthly intake of fluoride, and fluoride intake from sources other than water—such as toothpaste, mouthwashes, and some foods that contain fluoride (tea, cabbage, broccoli, turnip, soya, peanut, spinach, type of consumed fish, amount of consumed fish, type of consumed salt). Each odds ratio (OR), confidence interval (CI 95%), and p-value were examined for these factors for both the case and control groups. The ones that had p-values less than 0.2 were used for the final logistic model. Participants (case and control groups) were asked to take the T3, T4, and TSH hormone tests in the Yazd central laboratory. The radio immunoassay (RIA) method was used to test T3, T4, and TSH hormone levels. Samples of the participants' drinking water were analyzed to determine the concentration of fluoride in the water at the wastewater laboratory in the School of Public Health, University of Shahid Sadoughi of Yazd. Finally, a mixed logistic regression model was applied for the statistical analysis.

Drinking water fluoride study. As the water resources of this region differ, the samples were selected from the living sites of the case and control groups. The amount of fluoride (mg/L) present in the drinking water was measured and its concentration was determined by the SPADANS method. The test number 8,029 was used from the Standard Methods for the Examination of Water and Wastewater[37]. In this colorimetric method, the reaction occurs between fluoride and a zirconium-dye lake. The resultants of the reaction between fluoride and zirconium-dye lake are a colorless complex anion (ZrF_6^{2-}) derived from fluoride, and the dye. When the amount of fluoride in drinking water increases, the color progressively becomes lighter[37]. We used a fluoride reagent solution with the following specifications: 500 mL (HACH), range: 0.02–2.00 mg/L F-. The color was analyzed with the help of the DR2000 spectrophotometer (by HACH, a German company) and a 580 nm wavelength.

Statistical analysis data. The data collected from the experiments and questionnaires was analyzed using logistic regression models. Thereafter, Microsoft EXCEL 2013, IBM SPSS statistics 20, and Arc GIS 10 were applied for the data analysis.

Compliance with Ethical Standards. This study is Compliance with Ethical Standards. this study funded by Environmental Science and Technology Research Center, Department of Environmental Health Engineering, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.

Ethical approval and informed consent. This article does not contain any studies with human participants performed by any of the authors. Case and control people choses with their consent and have been informed about study and they completed the questionnaire. Their thyroid hormones analyze in Yazd central laboratory.

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Author Contributions

Z.K.H., M.H.E. and A.H.M. were the main investigator. M.M. and M.M. collected the data. M.K. and R.A. and H.F. were advisors of the study. All authors read and approved the final manuscript.

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2010 → 47K Rockwell Articles

fluoridealert.org

2010 → 330
1990 → 500?

Communities Which Have Rejected Fluoridation Since 1990

fluoridealert.org/content/communities/

From the very start, water fluoridation has always been an unpopular program. In its 60+ year history, the majority of U.S. communities that have had an opportunity to vote on the measure have rejected it. Fluoridation was thus established in the U.S. not through public referenda, but executive actions by government bodies. For a brief history on public opposition to fluoridation in the U.S., click here.

Community / Country	Population	Date
Edgartown, Massachusetts	4,000	April 12, 2018
Bisbee, Arizona	5,308	February 8, 2018
Ocilla, Georgia	3,604	November 7, 2017
Port Angeles, Washington (Port Angeles residents voted down fluoridation in December 2015 but the city Council refused to respect the vote.)	19,038	November 7, 2017
Buda, Texas	7,295	November 7, 2017
Grant and other towns with North Marshall Utilities, Alabama	4,200	November 6, 2017
Walden, New York	6,978	October 17, 2017
Moncton, New Brunswick, Canada **Note:** Moncton also said no to fluoridation in 2011	72,000	September 18, 2017
Oconto Falls, Wisconsin	2,891 (in 2010)	August 16, 2017
Curaçao	160,000	August 2, 2017

Greater Johnson Water Authority, Pennsylvania Serves Population in Cambria County: the City of Johnstown (19,712), Brownstown Borough (700), Dale Borough (1,160), Ferndale Borough (1,600), Lorain Borough (714), Westmont Borough (4,876), East Conemaugh Borough (1,145), Franklin Borough (300), Southmont Borough (2,150), Conemaugh Township (2,000), Middle Taylor Township (800), Stonycreek Township (2,000), Lower Yoder Township (2,500), Upper Yoder Township (5,000) and West Taylor (6,000). And Conemaugh Township in Somerset County (2,000).	52,657	July 20, 2017
Nipawin, Saskatchewan, Canada	4,401	July 10, 2017
Piedmont, Alabama	5,000	May 16, 2017
Alexandria City, Indiana	5,067	April 3, 2017
Hinchinbrook Shire Council, Queensland, Australia	12,500	March 2017
Jonesborough, Tennessee	5,000	Feb 13, 2017
Bedford Regional Water Authority, Virginia	25,000 (estimated)	Feb 1, 2017
Greenfield, Massachusetts	18,168	Feb 9, 2017
Arab, Alabama	8,400	Dec 23, 2016
DeKalb Utility, Tennessee *Their decision was to discontinue fluoridation when their new water treatment plant comes online*	5,000 (minimum)	Dec 22, 2016
La Ville de Trois–Rivières, Quebec, Canada	135,054	Nov 21, 2016
Kennebunk, Kennebunkport and Wells Water District, Maine	30,000 (seasonally up to100,000)	Nov 8, 2016
Patton, Pennsylvania	1,770	October 31, 2016 (on or after)
Mackay Regional Council, Australia	123,724	Sept 28, 2016
Bedford, England, U.K.	166,252	Sept 9, 2016
Hardin, Montana	3,800	July 28, 2016

Gladstone Regional Council, Queensland, Australia	73,335	July 19, 2016
Buffalo, Wyoming	4,650	June 21, 2016
Wakefield, England, U.K.	77,500	June 3, 2016
Cornwall, Ontario, Canada	46,340	May 24, 2016
Albuquerque, New Mexico	157,428	May 18, 2016
Newport, Oregon	10,120	May 18, 2016
Nairn and Hyman, Ontario, Canada	477	April 11, 2016
Attica, Indiana	3,100	March 2016
Guilford Township, Pennsylvania Greene Township, Pennsylvania	26,000 Combined pop.	March 15, 2016
Cortland, New York	19,000	February 4, 2016
Whakatane, New Zealand	37,000	January 27, 2016
Parry Sound, Ontario, Canada	6,200	January 27, 2016
San Marcos, Texas	44,894	November 3, 2015
Warsaw, Missouri	2,133	August 2015
Bellefonte, Pennsylvania	6,224	July 28, 2015
Snowmass, Colorado	2,826	July 17, 2015
Soddy Daisy, Tennessee	13,000	July 2016
Sullivan, Missouri	7,000	May 19, 2015
Palatka, Florida	10,482	May 14, 2015
Oneida, New York	21,147 Oneida Water District	May 5, 2015

Kingsville, Ontario, Canada	21,400	April 28, 2015
Clarksburg, West Virginia	16,400	April 27, 2015
Saukville, Wisconsin	4,500	April 13, 2016
Carl Junction, MIssouri	7,500	April 8, 2015
Bennington, Vermont	16,000	March 3, 2015
Yoshikawa, Japan	70,000	February 2015
Montello, Wisconsin	1,500	February 2015
Brackenridge Borough, Pennsylvania	3,240	February 2015
Boynton Beach, Florida	71,100	January 2015
Doomadgee, Australia	1,000	January 2015
Cavan County Council, Ireland * Ireland is a country that has mandatory fluoridation which can only be ended by a vote of the national government. However, councils are taking positions on the issue. "A proposal has been passed by the members of Cavan County Council to ask the executive to write to Irish Water seeking an end to the practice of adding fluoride to public water supplies."	[* 73,000]	January 2015
Galway Council, Ireland * Ireland is a country that has mandatory fluoridation which can only be ended by a vote of the national government. However, councils are taking positions on the issue. The Galway Council unanimously supported a motion to record "its opposition to the current policy of water fluoridation in Ireland… calls on the Government to organise a national referendum on water fluoridation in the next 18 months, (possibly in tandem with another referendum), which will educate the public thoroughly on both sides of the debate and allow their voice to be heard on this important public health issue.."	[* 75,600]	January 26, 2015
Leitrim County Council, Ireland * Ireland is a country that has mandatory fluoridation which can only be ended by a vote of the national government. However, councils are taking positions on the issue. The Leitrim County Council unanimously supported a motion to call upon the government "to ban the addition of fluoride to water supplies."	[* 31,800]	January 12, 2015

Wexford County Council, Ireland * Ireland is a country that has mandatory fluoridation which can only be ended by a vote of the national government. However, councils are taking positions on the issue. The Wexford County Council voted unanimously to ask the government to cease and reverse Ireland's Health (fluoridation of water) Act of 1960.	[* 150,000]	January 12, 2015
Schuylkill Haven, Pennsylvania	5,340	January 7, 2015
Ford City, Pennsylvania	3,000	December 29, 2014
La Prairie, Quebec, Canada	20,000	December 2, 2014
Warwick, Queensland, Australia	13,400	November 26, 2014
Stanthorpe, Queensland, Australia	900	November 26, 2014
Allora, Queensland, Australia	5,400	November 26, 2014
Yangan, Queensland, Australia	400	November 26, 2014
Preston, Georgia	400	November 17, 2014
Weston, Georgia	80	November 17, 2014
Prince George, British Columbia, Canada	71,970	November 16, 2014
Sparwood, British Columbia, Canada	3,500	November 16, 2014
Kerry County Council, Ireland * Ireland is a country that has mandatory fluoridation which can only be ended by a vote of the national government. However, councils are taking positions on the issue. The Kerry County Council voted unanimously to "write to the Government calling for the cessation of public water fluoridation."	[* 145,500]	November 10, 2014
Southampton and parts of Hampshire County, UK	195,000	October 28, 2014
Richmond, Quebec, Canada	3,300	October 20, 2014

Dublin, Ireland * Ireland is a country that has mandatory fluoridation which can only be ended by a vote of the national government. However, councils are taking positions on the issue. Dublin's city council "adopted an anti fluoride position and further, will be calling on the Government to end Ireland's mandatory water fluoridation policy with immediate effect."	[* 500,000+]	October 7, 2014
Shell Lake, Wisconsin	1,400	September 2014
Oliver Springs, Tennessee	3,300	September 4, 2014
ISRAEL •See FAN Bulletin	7.9 MILLION	August 26, 2014 (Official end date)
Waynesville, Missouri	5,200	August 21, 2014
Rotorua, New Zealand	70,000	July 31, 2014
Montrose, Colorodo	19,000	July 31, 2014
Bucks County, Pennsylvania	385,000	July 1, 2014
Camden, Tennessee	3,620	June 12, 2014
Oberon, New South Wales, Australia	2,500	May 26, 2014
Boyne, Michigan * On November 4, 2014, the city commissioners voted to resume fluoridation.	*[* 3,800]*	*May 19, 2014*
Clonakilty, West Cork, Ireland * Ireland is a country that has mandatory fluoridation which can only be ended by a vote of the national government. However, councils are taking positions on the issue. Clonakilty Town Council called for an end to fluoridation in 2013. In 2014, "Seven local businesses have all installed reverse osmosis water filtration systems to assure their customers that all food and beverage products prepared on site are fluoride-free… Fluoride-free status is achieved through a minimum of six businesses in a town having reverse osmosis fluoride filtration installed."	[* 4,721]	May 16, 2014
Buffalo, Missouri	3,100	May 12, 2014
Bolton, England	276,790	May 6, 2014
Saint John, New Brunswick, Canada	76,550	March 11, 2014

Hernando County, Florida	173,422	February 26, 2014
Macroom Town Council, Ireland * Ireland is a country that has mandatory fluoridation which can only be ended by a vote of the national government. However, councils are taking positions on the issue.	[* 3,600]	February 7, 2014
Wellington, Florida	58,679	January 28, 2014
Bantry Town Council, Ireland * Ireland is a country that has mandatory fluoridation which can only be ended by a vote of the national government. However, councils are taking positions on the issue.	[* 3,300]	January 25, 2014
Amherst County, Virginia	33,000 # on municipal water unknown	January 2014
Wood Village, Oregon	4,000	January 20, 2014
Huntsville, Ontario, Canada	19,100	January 2014
Lake of Bays, Ontario, Canada	3,500	January 2014
Atwood, Tennessee	930	December 2013
Hoopa Valley (Humboldt County), California	2,633	November 21, 2013
Byron Shire (NSW), Australia	29,000	November 20, 2013
Cotati (Sonoma County), California	7,300	November 12, 2013
Forsyth, Missouri	2,280	October 21, 2013
Muskoka, Ontario, Canada	58,000	October 21, 2013
Davis, California	66,000	October 1, 2013
Tottenham, Ontario, Canada	4,800	September 30, 2013
Columbia, Tennessee	27,000	September 25, 2013
Woodland, Washington state	5,625	August 19, 2013

Mount Isa, Queensland, Australia	23,000	August 13, 2013
Parkland, Washington	35,800	June 2013
Hamilton, New Zealand	145,600	June 5, 2013
Portland, Oregon	900,000	May 21, 2013
Rockhampton, Queensland, Australia	61,700	May 14, 2013
Kenton, Tennessee	1,525	May 8, 2013
Southwest Harbor, Maine	2,000	May 7, 2013
Innisfail, Queensland, Australia	1,075	April 23, 2013
Whitsunday Regional Council, Queensland, Australia	37,000	April 9, 2013
Au Gres, Michigan	890	March 2013
Charters Towers, Queensland, Australia	9,573	March 2013
Tyrone, Pennsylvania	5,500	March 2013
Lebanon, Tennessee	27,710	March 2013
Cloncurry, Queensland, Australia	2,800	February 25, 2013
Olivehurst, California	14,000	February 22, 2013
Plumas Lake, California (affected by decision of the Olivehurt Public Utility)	6,000	February 22, 2013
Smithville, Missouri	8,500	February 22, 2013
Fraser Coast, Queensland, Australia	102,000	February 21, 2013
Hervey Bay, Queensland, Australia (Fraser Coast)		February 21, 2013
Maryborough, Queensland, Australia (Fraser Coast)		February 21, 2013
Tiaro, Queensland, Australia (Fraser Coast)		February 21, 2013

Burdekin, Queensland, Australia	18,192 (2006 estimate)	February 12, 2013
Ayr, Queensland, Australia (Burdekin area)	9,000	February 12, 2013
Home Hill, Queensland, Australia (Burdekin area)	3,050	February 12, 2013
Brandon, Queensland, Australia (Burdekin area)	900	February 12, 2013
Bundaberg region, Queensland, Australia	100,000	February 12, 2013
Bargara, Queensland, Australia (Bundaberg region)	7,000	February 12, 2013
Childers, Queensland, Australia (Bundaberg region)	1,700	February 12, 2013
Gin Gin, Queensland, Australia (Bundaberg region)	2,000	February 12, 2013
St. Croix Falls, Wisconsin	2,126	February 2013
Balsam Lake, Wisconsin	1,000	February 4, 2013
Cairns, Queensland, Australia	153,000	January 29, 2013
Mossman, Queensland, Australia (Cairns area)	1,740	January 29, 2013
Port Douglas, Queensland, Australia (Cairns area)	3,200	January 29, 2013
Windsor, Ontario, Canada	279,000	January 28, 2013
La Salle, Ontario, Canada (affected by Windsor vote)	29,000	January 28, 2013
Tecumseh, Ontario, Canada (affected by Windsor vote)	24,000	January 28, 2013
Doomadgee Aboriginal Council, Australia	1,300	January 2013
Biggenden, Queensland, Australia (North Burnett area)	690	January 2013
Eidsvold, Queensland, Australia (North Burnett area)	630	January 2013
Gayndah, Queensland, Australia (North Burnett area)	1,800	January 2013
Monto, Queensland, Australia (North Burnett area)	1,300	January 2013

Mount Perry, Queensland, Australia (North Burnett area)	500	January 2013
Mundubbera, Queensland, Australia (North Burnett area)	1,050	January 2013
South Burnett, Queensland, Australia	28,191	January 2013
Blackbutt, Queensland, Australia (South Burnett)	1,055	January 2013
Nanango, Queensland, Australia (South Burnett)	3,083	January 2013
Kingaroy, Queensland, Australia (South Burnett)	7,620	January 2013
Wondai, Queensland, Australia (South Burnett)	1,402	January 2013
Murgon, Queensland, Australia (South Burnett)	2,131	January 2013
Pine Island, Florida	13,000 water customers	December 11, 2012
Atherton, Queensland, Australia (Tablelands Regional Council)	7,300	December 2012
Mareeba, Queensland, Australia (Tablelands Regional Council)	10,200	December 2012
Kuranda, Queensland, Australia (Tablelands Regional Council)	3,000	December 2012
Malanda, Queensland, Australia (Tablelands Regional Council)	2,100	December 2012
Kirkland Lake, Ontario, Canada	8,133	December 2012
Milton, Florida	7,000	November 2012
Bradford, Vermont	788	November 2012
Romulus, New York	400	November 2012
Pulaski, New York	2,367	November 13, 2012
Wichita, Kansas	385,000	November 6, 2012
Harvard, Nebraska	1,000	November 6, 2012
Crescent City, California	14,000	November 6, 2012

Lake View, Iowa	1,130	October 17, 2012
Cassadaga, New York	631	October 17, 2012
Waipukurau, New Zealand	4,000	September 28, 2012
Cunnamulla, Queensland, Australia	1,217	August 9, 2012
Orillia, Ontario, Canada	30,300	July 17, 2012
Rosetown, Saskatchewan, Canada	2,300	July 16, 2012
Santa Fe, New Mexico	68,642	July 11, 2012
Argos, Indiana	1,693	June 6, 2012
Bassett, Nebraska	607	May 15, 2011
Palisades, Colorado	3,000	May 15, 2012
Pevely, Missouri	6,000	May 1, 2012
Lakeville, Indiana	785	Spring 2012
North Liberty, Indiana	1,895	Spring 2012
Walkerton, Indiana	2,142	Spring 2012
Okotoks, Alberta, Canada	25,000	April 23, 2012
Curacao Note: Ending fluoridation did not take place. However on August 2, 2017, the water aiuthority stopped adding fluoride to drinking water.	140,000	April 22, 2012
Albuquerque, New Mexico	500,000	April 11, 2012
West Manheim, Pennsylvania	8,000	April 8, 2012
Bourbon, Indiana	2,000	March 20, 2012
Amherstburg, Ontario, Canada	20,000	February 7, 2012

Bolivar, Missouri	11,000	February 7, 2012
Myerstown, Pennsylvania	3,500	January 13, 2012
Hartland Township, Michigan	14,800	December 20, 2011
Moncton, New Brunswick, Canada	140,000	December 19, 2011
Dieppe, New Brunswick, Canada	20,000	December 12, 2011
Grantsburg, Wisconsin	1,300	December 12, 2011
Lake Cowichan, British Columbia, Canada	3,000	November 19, 2011
Williams Lake, British Columbia, Canada	11,200	November 19, 2011
Amesbury, Massachusetts	16,500	November 8, 2011
Lakeshore, Ontario, Canada	33,000	October 31, 2011
Palmer, Alaska	8,400	October 25, 2011
Lawrenceburg, Tennessee	11,000	October 18, 2011
Churchill, Manitoba, Canada	1,000	October 18, 2011
New Plymouth, New Zealand	50,000	October 13, 2011
Palmer, Alaska	8,400	October 11, 2011
Welsh, Louisiana	3,500	October 4, 2011
Spencer, Indiana /BPP Water	10,500	September 30, 2011
College Station, Texas	100,000	September 22, 2011
Slave Lake, Alberta, Canada	7,000	September 12, 2011
Hohenwald, Tennessee	4,000	September 6, 2011
Pottstown, Pennsylvania	15,500	August 16, 2011

Spring Hill, Tennessee	30,000	August 15, 2011
Taber, Alberta, Canada	6,500	July 20, 2011
Meadow Lake, Saskatchewan, Canada	5,000	July 4, 2011
Taumarunui, New Zealand	5,000	June 30, 2011
Fairbanks, Alaska	80,000	June 6, 2011
Naples Village, New York	1,070	May 18, 2011
Mount Clemens, Michigan	17,300	May 16, 2011
Holmen, Wisconsin	6,200	April 27, 2011
Lago Vista, Texas	6,500	April 21, 2011
Mechanicsville, Iowa	1,200	April 17, 2011
Marcellus, Michigan	1,100	March 17, 2011
Independence, Virginia	1,000	February 16, 2011
Calgary, Alberta, Canada	1,300,000	February 8, 2011
Yellow Springs, Ohio	3,200	February 7, 2011
Verchères, Québec, Canada	5,240	February 7, 2011
Schuylkill Haven, Pennsylvania	5,500	January 19, 2011 (First announced Feb 4, 2010)
Sparta, North Carolina	2,000	November 15, 2010
Tellico, Tennessee	900	November 4, 2010
Athabasca, Alberta, Canada	2,600	November 1, 2010

Waterloo, St. Jacobs and Elmira, Ontario, Canada	103,000	October 25, 2010
O'Fallon, Missouri	80,519	October 5, 2010
Red Bay, Alabama	3,177	September 15, 2010
Napa, California	77,867	August 17, 2010
Sandpoint, Idaho	7,354	July 24, 2010
Selmer, Tennessee	4,500	June 10, 2010
Kaikohe, New Zealand	4,000	May 17, 2010
Kaitaia, New Zealand	5,200	May 17, 2010
Crete, Nebraska	7,000	May 11, 2010
Dakota City, Nebraska	1,900	May 11, 2010
Franklin County, Nebraska	3,200	May 11, 2010
Norfolk, Nebraska	24,200	May 11, 2010
Wahoo, Nebraska	4,500	May 11, 2010
Gatineau, Québec, Canada	265,349	May 5, 2010
Schuylkill Haven Borough, Pennsylvania	5,000	February 4, 2010
Xenia, Ohio	25,900	December 16, 2009
Beacon, New York	15,500	December 7, 2009
Amery, Wisconsin (Decision reversed in 2010)	2,800	November 30, 2009
Wisner, Nebraska	1,100	November 10, 2009
Yutan, Nebraska	1,190	November 10, 2009
Humboldt, Kansas	1,940	September 22, 2009

Wakefield, Nebraska	1,400	September 15, 2009
Thunder Bay, Ontario, Canada	108,359	July 21, 2009
Plainfield, Vermont *(voted to remove fluoride)*	1,333	March 3, 2009
Chippewa Falls, Wisconsin *(for the 2nd time)*	13,661	February 17, 2009
Skagit County, Washington	116,900	February 10, 2009
Big Canoe, Georgia	23,181	January 8, 2009
Cranberry Portage, Manitoba, Canada	615	January 1, 2009
Drayton Valley, Alberta, Canada	7,000	December 31, 2008
Test Valley Borough Council (UK)		November 13, 2008
Jackman, Maine	690	November 4, 2008
Moose River, Maine	200	November 4, 2008
Corning, New York	11,000	November 4, 2008
Ainsworth, Nebraska	1,700	November 4, 2008
Aurora, Nebraska	4,400	November 4, 2008
Battle Creek, Nebraska	1,200	November 4, 2008
Bayard, Nebraska	1,200	November 4, 2008
Beatrice, Nebraska	12,400	November 4, 2008
Bridgeport, Nebraska	1,500	November 4, 2008
Broken Bow, Nebraska	3,500	November 4, 2008
Cambridge, Nebraska	1,060	November 4, 2008
Central City, Nebraska	2,900	November 4, 2008

Chadron, Nebraska	5,800	November 4, 2008
Cozad, Nebraska	3,900	November 4, 2008
Crawford, Nebraska	990	November 4, 2008
David City, Nebraska	2,900	November 4, 2008
Eagle, Nebraska	1,000	November 4, 2008
Friend, Nebraska	1,000	November 4, 2008
Geneva, Nebraska	2,200	November 4, 2008
Gothenburg, Nebraska	3,500	November 4, 2008
Grand Island, Nebraska	48,500	November 4, 2008
Grant, Nebraska	1,160	November 4, 2008
Hastings, Nebraska	24,900	November 4, 2008
Hebron, Nebraska	1,500	November 4, 2008
Imperial, Nebraska	2,070	November 4, 2008
Kimball, Nebraska	2,400	November 4, 2008
Lexington, Nebraska	10,200	November 4, 2008
Madison, Nebraska	2,400	November 4, 2008
Milford, Nebraska	2,090	November 4, 2008
Mitchell, Nebraska	1,700	November 4, 2008
North Platte, Nebraska	24,700	November 4, 2008
Ord, Nebraska	2,100	November 4, 2008
Pawnee City, Nebraska	870	November 4, 2008

Pierce, Nebraska	1,700	November 4, 2008
Plainview, Nebraska	1,200	November 4, 2008
Ravenna, Nebraska	1,300	November 4, 2008
Schuyler, Nebraska	6,200	November 4, 2008
Scottsbluff, Nebraska	15,000	November 4, 2008
Shelton, Nebraska	1,050	November 4, 2008
Sidney, Nebraska	6,750	November 4, 2008
St. Paul, Nebraska	2,290	November 4, 2008
Stanton, Nebraska	1,570	November 4, 2008
Stromsburg, Nebraska	1,170	November 4, 2008
Sutherland, Nebraska	1,280	November 4, 2008
Sutton, Nebraska	1,500	November 4, 2008
Tekamah, Nebraska	1,730	November 4, 2008
Valentine, Nebraska	2,700	November 4, 2008
Weeping Water, Nebraska	1,050	November 4, 2008
Wilber, Nebraska	1,800	November 4, 2008
Wood River, Nebraska	1,300	November 4, 2008
Wymore, Nebraska	1,400	November 4, 2008
York, Nebraska	7,700	November 4, 2008
Prairie du Chien, Wisconsin	5,900	November 4, 2008
Hyndburn, Lancashire, England	80,000	September 23, 2008

Pendle, Lancashire, England	90,000	September 18, 2008
Alamo Heights, Texas	7,470	September 8, 2008
Earnsiceugh/Manuherikia, New Zealand		September 8, 2008
Alexandra, New Zealand	4,850	September 8, 2008
Cromwell, New Zealand	4,000	August 18, 2008
Isle of Man	84,000	June 12, 2008
Elba, New York	2,370	June 4, 2008
Littleton, Massachusetts	8,900	May 10, 2008
Yarmouth, Massachusetts	25,000	May 6, 2008
Dryden, Ontario, Canada	7,600	April 2008
Quebec City, Canada (after 36 years of fluoridation)	765,000	April 1, 2008
Welland, Pelham, and parts of Thorold, Ontario, Canada		February 2008
Poughkeepsie, New York	32,700	February 2008
Manila, Humboldt County, Calfornia	784	February 2008
Lewisburg, Tennessee	11,000	2008
Elgin City Council, Texas	8,262	November 2007
Waitaki District Council, New Zealand		October 2007
Juneau, Alaska	31,000	October 2007
O'Connor UD, Sparta, White County, Georgia		August 8, 2008
Quebeck Walling UD, Sparta, White County, Georgia		August 8, 2008
Cobleskill Village, Schoharie County, New York (Decision reversed in 2009)	4,536	August 2007

Marshall County BUP#1, Lewisburg, Marshall County, Georgia		July 27, 2008
Rotherham, Yorkshire, UK	117,300	June 2007
LaGuardo UD, Lebanon, Wilson County, Georgia		May 20, 2008
Conewango Township, Pennsylvania	4,000	May 2008
Glade Township, Pennsylvania	4,000	May 2008
Mead Township, Pennsylvania	1,560	May 2008
Pleasant Township, Pennsylvania	2,600	May 2008
Big Creek Utility District, Grundy County, Georgia		May 7, 2008
Cagle-Fredonia Utility District, Big Creek, Sequatchie, Georgia		May 7, 2008
Altoona, Pennsylvania	46,000	May 2008
Beach Haven, New Jersey	1,170	April 2007
Sulphur Rock, Arkansas	450	April 2007
Mt Desert Water District, Maine		March 5, 2007
East Montgomery, Tennessee		2007
Martin County, Florida	147,495 (as of 2011)	December 19, 2006
Juneau, Alaska	31,000	December 11, 2006
Central Bridge Water District, New York		November 21, 2006
Ashland, Oregon (Decision reversed in 2008)	20,000	November 21, 2006
Lenapah, Oklahoma	290	November 21, 2006
Page, Arizona	7,000	November 7, 2006
Lincoln, Maine	5,225	November 7, 2006
Rockford, Iowa	800	January 12, 2006
Oxford, Alabama also see this article	21,000	2005
Golden, British Columbia, Canada	3,500	November 19, 2005

Lafayette, Tennessee	4,000	November 9, 2005
Bellingham, Washington State	80,500	November 8, 2005
Springfield, Ohio	60,000	November 8, 2005
Xenia, Ohio	25,000	November 8, 2005
Tooele, Utah	25,000	November 8, 2005
Mammoth Lakes, California	7,500	November 8, 2005
Homer, New York	3,248	November 1, 2005
Hood River, Oregon	7,000	May 2005
Neosho, Missouri	11,000	April 5, 2005
Pagosa Springs, Colorado	1,600	March 2005
Snohomish, Washington State	9,000	January 2005
Lancaster, Ohio	38,000	November 2, 2004
Hutchinson, Kansas	38,000	November 2, 2004
Clarksdale, Mississippi	21,000	October 25, 2004
Milton, Washington State	6,800	September 20, 2004
Telluride, Colorado	2,300	September 2004
Sumner, Washington State	9,000	August 2, 2004
Chippewa Falls, Wisconsin (Rejected again in 2009)	13,000	April 2004
Honolulu, Hawaii	300,000	January 28, 2004
Lancaster, Ohio	38,000	January 12, 2004
Burns Lake, British Columbia, Canada	2,000	June 25, 2003

Dutton-Dunwich, Ontario, Canada	3,000	June 2003
West Elgin, Ontario, Canada	5,400	June 2003
Sequim, Washington State	6,000	May 7, 2003
York, Nebraska		May 6, 2003
Columbiana, Alabama	4,000	May 2003
Canton, New York	6,000	February 18, 2003
Shaler, Pennsylvania	8,981 (as of 2010)	February 11, 2003
Billings, Montana	105,000	November 5, 2002
Kalispell, Montana	18,000	November 5, 2002
Washoe County, Nevada		November 5, 2002
Methuen, Massachusetts	47,000	November 5, 2002
Redding, California	88,000	November 5, 2002
Watsonville, California	50,000	November 5, 2002
Texarkana, Arkansas	31,660	November 5, 2002
Ashdown, Arkansas	5,150	November 5, 2002
Oneida, New York	10,723	August 6, 2002
Franklin, North Carolina	3,869 (as of 2011)	May 2002
Plainville, Massachusetts	7,683	April 1, 2002
Monroe, Louisiana	51,200	February 26, 2002
Colorado Springs, Colorado	430,000	January 16, 2002
Kennewick, Washington	76,224 (as of 2011)	January 15, 2002
Bennington, Vermont	15,764	January 8, 2002

Lanai, Hawaii		January 2002
Cobalt, Ontario, Canada		December 11, 2001
Erie, Colorado NOTE: FAN was informed in Jan 2013 that Erie is fluoridating. We do not know when the reversal took place.		November 2001
Modesto, California	202,751 (as of 2011)	November 7, 2001
Worcester, Massachusetts	181,631 (as of 2011)	November 7, 2001
Flagstaff, Arizona		November 7, 2001
Sutherlin, Oregon	7,797 (as of 2011)	November 7, 2001
Kamloops, British Columbia, Canada		October 13, 2001
White Salmon, Washington	2,266 (as of 2011)	September 2001
Goldendale, Washington	3,471 (as of 2011)	September 2001
Bishopville, South Carolina		June 2001
Harper, Kansas	1,463 (as of 2011)	May 31, 2001
Brewster, Massachusetts	10,094	May 15, 2001
McPherson, Kansas	13,182 (as of 2011)	April 3, 2001
Norridgewock, Maine	3,367 (as of 2010)	May 5, 2001
Blue River, Wisconsin	433 (as of 2011)	February 2001
Willamina, Oregon	2,042 (as of 2011)	January 2001
Ithaca, New York	29,974	November 7, 2000
Spokane, Washington	210,103 (as of 2011)	November 7, 2000
Brattleboro, Vermont	12,005	November 7, 2000
East Wenatchee, Washington	13,375 (12 of 2011)	November 7, 2000

Shawano, Wisconsin	9,263 (as of 2011)	November 7, 2000
Nibly City, Utah		November 7, 2000
Hyrum City, Utah		November 7, 2000
Providence City, Utah		November 7, 2000
Smithfield City, Utah		November 7, 2000
Logan City, Utah		November 7, 2000
River Heights, Utah		November 7, 2000
Pequannock, New Jersey	13,888	November 7, 2000
Ozark, Missouri	18,082 (as of 2011)	November 7, 2000
Wooster, Ohio		November 7, 2000
Squamish, British Columbia, Canada		October 16, 2000
Woodside, California	5,351 (as of 2011)	September 2000
Ste. Genevieve, Missouri	4,404 (as of 2011)	August 8, 2000
Winfield, Kansas	12,288 (as of 2011)	March 6, 2000
Wilmington, Massachusetts	21,363	February 15, 2000
Santa Barbara, California	89,045 (as of 2011)	November 23, 1999
Johnstown, New York	8,438	November 19, 1999
Wichita, Kansas	385,000 (as of 2011)	October 26, 1999
Boca Raton, Florida	85,329 (as of 2011)	October 25, 1999
El Carjon, California	100,928 (as of 2011)	April 27, 1999
Helix Water District, California		April 7, 1999

Lakeside Water District, California		April 6, 1999
Hutchinson, Kansas		March 30, 1999
Riverview Water District, California		March 24, 1999
La Mesa, California	57,907 (as of 2011)	March 9, 1999
Santa Cruz, California	60,342 (as of 2011)	March 4, 1999 ... banned
Olympia, Washington	47,266 (as of 2011)	December 15, 1999
Bremerton, Washington	39,051 (as of 2011)	February 2, 1999
Seward, Nebraska	6,946 (as of 2011)	November 3, 1998
Whitehorse, Yukon Territory, Canada		July 28, 1998... quit after 30 years
Grand Island, Nebraska	49,239 (as of 2011)	May 13, 1998... quit
Norfolk, Nebraska	24,248 (as of 2011)	May 13, 1998
North Platte, Nebraska	24,634 (as of 2011)	May 13, 1998
Washington, Missouri	14,045 (as of 2011)	April 7, 1998
Kitmat, British Columbia, Canada		March 1998... quit
Hot Springs, Arkansas		February 1998
Ridgefield, Oregon	4,782 (as of 2011)	December 22, 1997
Largo, Florida	77,723 (as of 2011)	July 15, 1997
Clearwater, Florida	107,784 (as of 2011)	July 15, 1997
North Redington Beach, Florida	1,418 (as of 2011)	July 15, 1997

Amsterdam, New York	17,533	May 21, 1997
Suisun City, California	28,330 (as of 2011)	May 1, 1997
Yardley, Pennsylvania	2,440 (as of 2011)	April 16, 1997
Village of Orfordville, Wisconsin	1,441 (ad of 2011)	December 9, 1996
Western Nassau County, New York	28,000	November 21, 1996... quit after 23 years
Kelowna, British Columbia, Canada		November 16, 1996... quit after 42 years
Gothenberg, Nebraska	3,583 (as of 2011)	December 1996
Bloomer, Wisconsin	3,560 (as of 2011)	November 6, 1996
Kodiak, Alaska	6,000	July 12, 1996
Carle Place, New York	5,130	February 1, 1996... quit
Winter Springs, Florida	33,468 (as of 2011)	January 10, 1996
Pasco, Florida	466,457 (as of 2011)	December 14, 1995
York, Pennsylvania	43,884 (as of 2011)	July 29, 1995
Thurmont, Maryland		February 3, 1994
Albany, New York	93,963	December 8, 1994
Middletown, Maryland		November 1993... quit
Barnstable (Cape Cod), Massachusetts	47,821	November 4, 1993
Wagoner, Oklahoma		June 17, 1993
Redwood Valley, California	1,729 (as of 2010)	February 6, 1993

Los Altos Hills (Purissima) California	8,046 (as of 2011)	1993
Campbell River, British Columbia, Canada		April 1993… quit after 33 years
Port Hardy, British Columbia, Canada		November 1993… quit after 19 years
Squamish, British Columbia, Canada		November 1993… quit after 20 years
Fort Smith, Arkansas		November 3, 1992
Milltown, Wisconsin	913 (as of 2011)	October 17, 1992
Bellingham, Washington		May 19, 1992
Comox/Courtenay, British Columbia, Canada		February 1992
Palm Beach County, Florida **Note: Parts of the county are fluoridated**		October 22, 1991
Ketchikan, Alaska	8,000	October 2, 1991
Suffolk County, New York	**1,512,224**	August 15, 1991
Davis, California	66,016 (as of 2011)	December 14, 1990… 5th rejection
Morgan Hill, California	38,477 (as of 2011)	March 7, 1990… quit

See also separate list of communities that have stopped fluoridation since 2010

Presented at 6.4.18 City Council Meeting - Agenda Item #4

City of Florence
A City in Motion

Airport Road Affordable Housing Project

Presentation Overview

- History & Background
- Site Overview
- Neighborhood Economic Development Corporation (NEDCO) & Willamette Neighborhood Housing Services (WNHS) Presentation
  - Project Overview & Construction Process
  - Grant Overview
- Potential City Financial Support
- Options, Recommendation & Next Steps

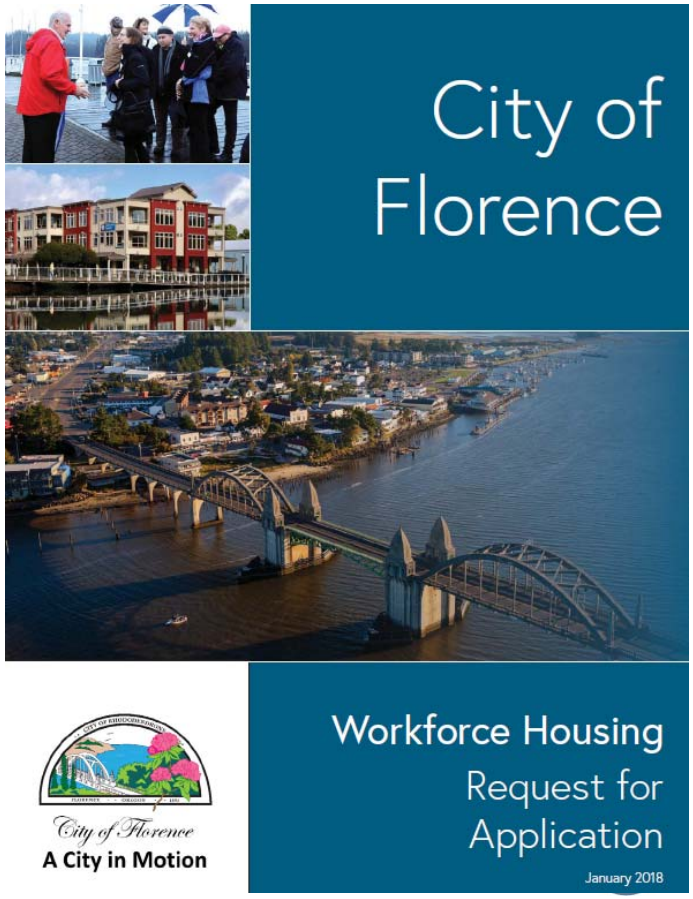
City of Florence
A City in Motion

Project History & Background

- Oregon Regional Solutions Workforce Housing Grant - January 2018
  - Potential Funding of Workforce Housing Development

- During Grant Preparation Staff / NEDCO reviewed many potential affordable housing locations including:
  - Parcel behind Lane Community College
  - Private Parcels within Florence Urban Renewal Agency boundaries
  - Parcel adjacent to Ocean Dunes Golf Course
  - Many other privately owned vacant / rehab opportunities

City of Florence
A City in Motion



Site Selection

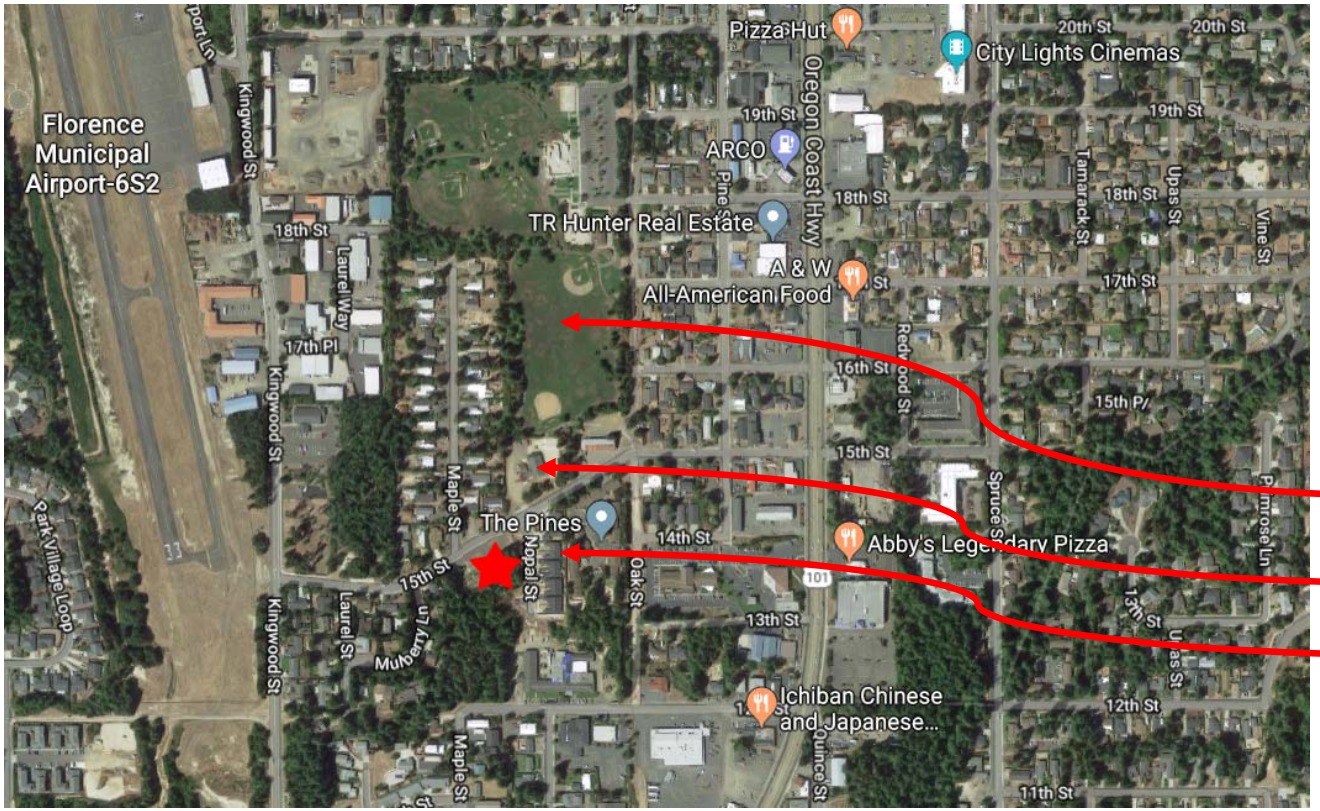
City of Florence
A City in Motion

- **Eventually Chose 'Old Senior Center Site' for Grant Proposal Project due to its:**
  - Central in-town location;
  - Availability of Utility Infrastructure;
  - Proximity to family services including Miller Park, Boys and Girls Club and the Siuslaw Schools;
  - Multi-Family Zoning;
  - Ownership by City of Florence;
  - History of intended use for affordable housing;
  - Lot Size.

Site Overview

Lot Size: 1.73 Acres / 73,359 sq. ft.
Zoning: Multiple Family Residential

- Previous Site of the Florence Senior Center
- Current Site of the Florence First Harvest Community Garden



Miller Park

Boys & Girls Club

Habitat for Humanity
'Keener' Place

Project History & Background

City of Florence
A City in Motion

- Oregon Regional Solutions Workforce Housing Grant - January 2018
  - Notified did not Receive on May 10th
  - Ranked 9 out of 32
- **Current Grant Alternative**
  - Oregon Housing & Community Services LIFT (Local Innovation Fast Track) grant
  - NEDCO / WNHS to apply and seeking City support

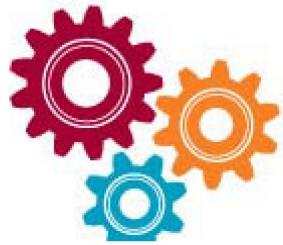
Oregon Housing and Community Services

Introductions

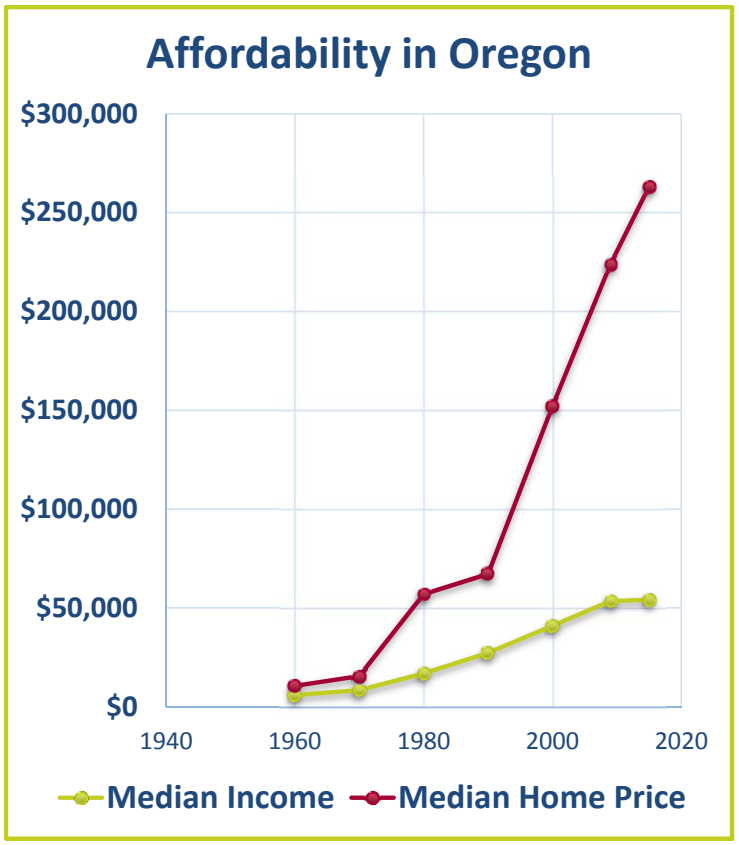
- **Neighborhood Economic Development Corporation (NEDCO)**
  - Executive Director Emily Reiman
- **Willamette Neighborhood Housing Services (WNHS)**
  - Executive Director Brigetta Olson

Intro to NEDCO and WNHS

- Combined Expertise
  - Affordable Housing Development
  - Asset Building
  - Healthy Communities
  - Community Economic Development
- Partners for 10+ years
- Merging 1/1/19



Why LMI Homeownership?

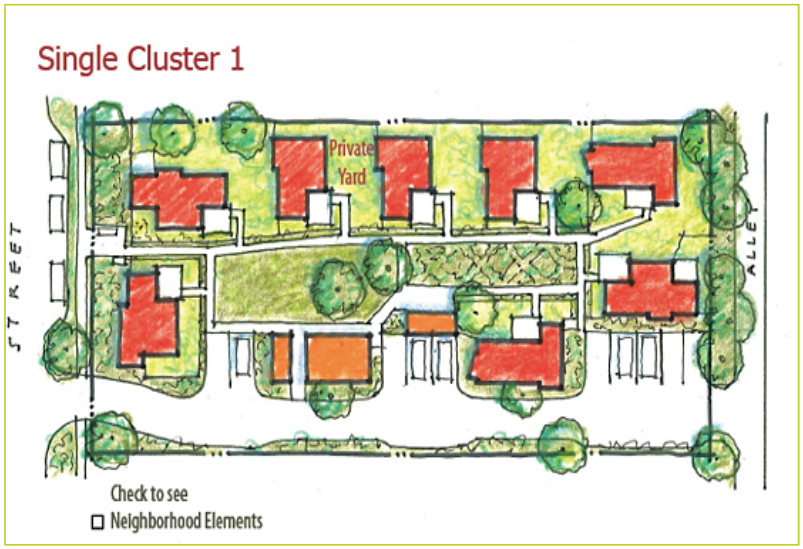


What's Affordable?

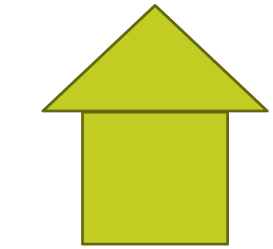
Lane	60% AMI	Max PITI	4.25% Mortgage	5% Mortgage
2 People	$30,780	$797	**$138,000**	**$120,000**
3 People	$34,620	$906	**$155,000**	**$140,000**
4 People	$38,460	$1,015	**$170,000**	**$160,000**
5 People	$41,580	$1,103	$193,000	$175,000

Cottage Clusters

- 500-1200 Square Feet
- Oriented Around Common Green Space
- Cost Efficiency From:
  - Land
  - Construction
  - Labor



Community Land Trust (CLT)



Sold to Homeowner

- **Private Mortgage**

Held by Nonprofit

- **Public Subsidy**

CLT Shared Appreciation

- Original Sales Price: $160,000
  - Mortgage = $155,000
- Sold After 12 Years: $180,000
  - UPB = $110,000
- Equity

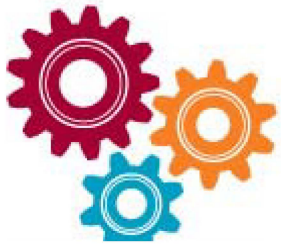
  $45,000 (principle paid down)

  $20,000 (appreciation)

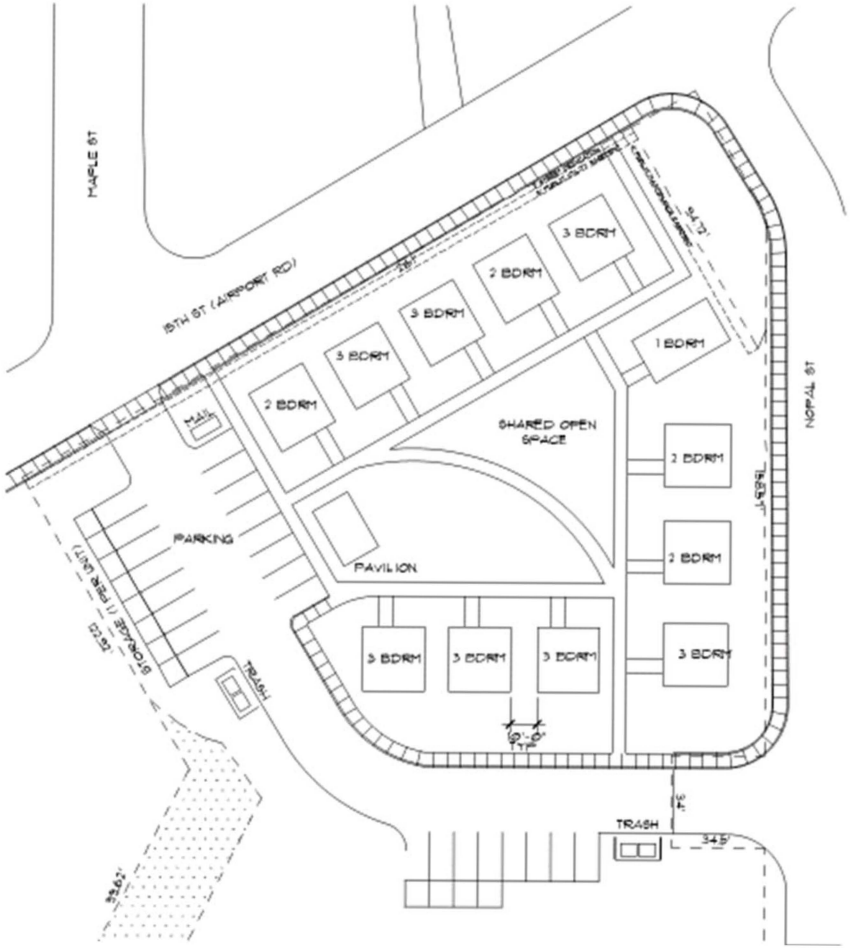
  $65,000 (total)

LIFT Homeownership Funding

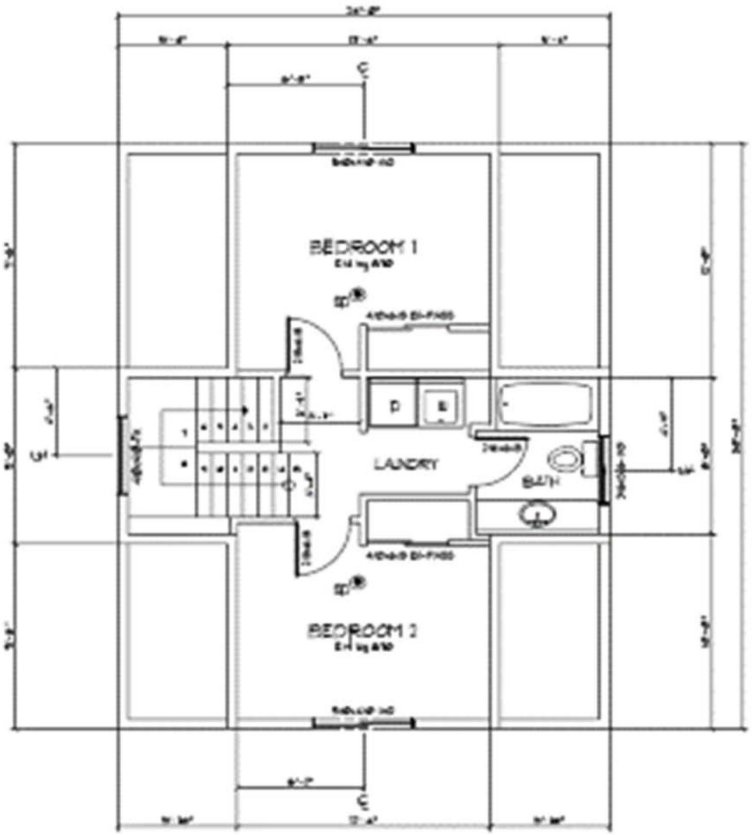
- New State Source for Homeownership
  - $8 million (Competitive Application)
- New Units
- Homebuyers Under 80% AMI
- Preference for Rural / Communities of Color
- Application Must Prove
  - Financial Feasibility
  - Readiness to Proceed



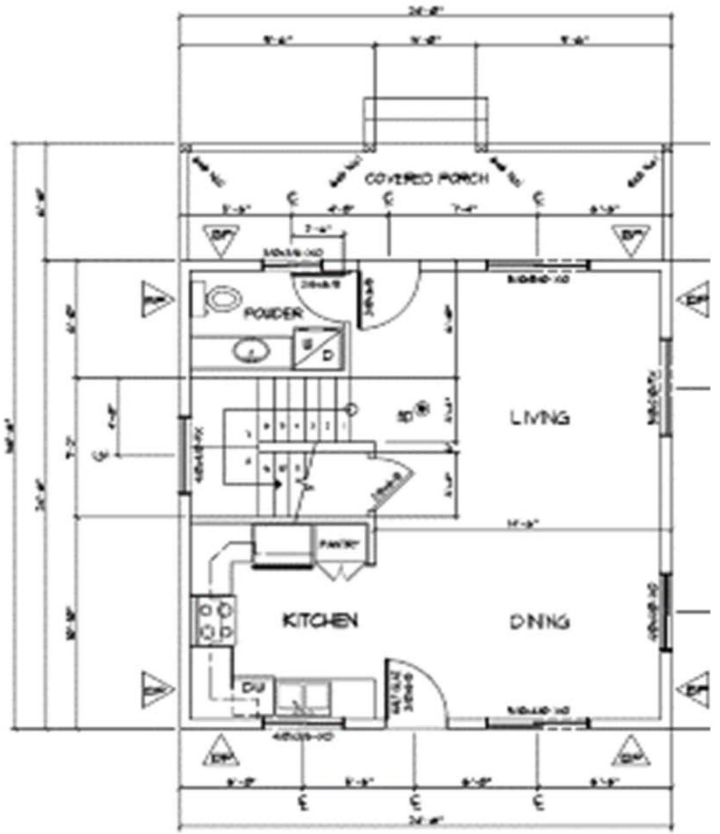
Proposed Florence CLT – Draft Site Plan



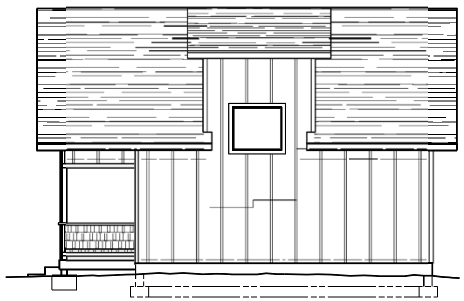
Proposed Florence CLT – 2 Bedroom



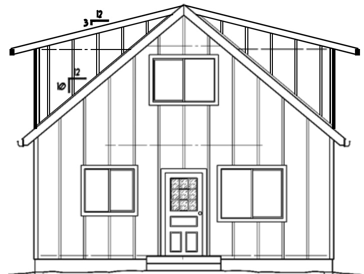
UPPER LEVEL FLOOR PLAN



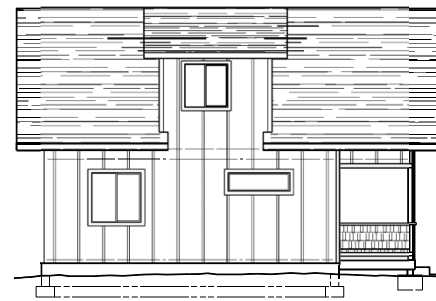
MAIN LEVEL FLOOR PLAN



RIGHT SIDE ELEVATION
SCALE: 1/4" = 1'-0"



REAR ELEVATION
SCALE: 1/4" = 1'-0"



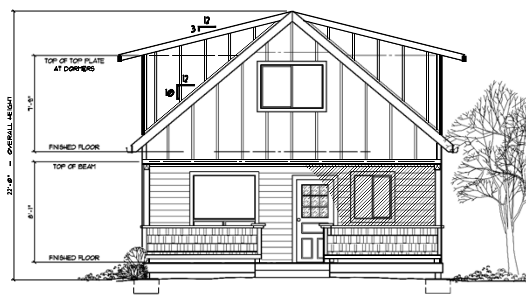
LEFT SIDE ELEVATION
SCALE: 1/4" = 1'-0"

EXTERIOR SPECIFICATIONS AND NOTES:

- WINDOW AND DOOR FLASHING: ALL EXTERIOR UNPROTECTED DOORS AND WINDOWS WITH TRIM SURROUNDS TO HAVE "Z" METAL FLASHING ABOVE.
- ALL DIMENSIONS ARE TO BE FACE OF FRAMING UNLESS NOTED OTHERWISE, CONTRACTOR TO VERIFY ALL DIMENSIONS.
- ALL EXPOSED JOINTS AND GAPS TO BE FILLED WITH HIGH GRADE SILICONE LATEX CAULKING OR AS RECOMMENDED BY MATERIAL MANUFACTURER.
- OTHER: CONTRACTORS TO CONSULT WITH OWNER FOR FULL EXTERIOR TRIM DETAILS AND MATERIALS.
- WINDOWS: TO BE U-0.35, VINYL CLADDED, LOW-E.
- THE TYPE OF EXTERIOR FINISHES, THE INSTALLATION AND THE WATERPROOFING DETAILS ARE ALL TO BE THE FULL RESPONSIBILITY OF THE OWNER AND BUILDER. THIS DESIGNER ASSUMES NO RESPONSIBILITY FOR THE INTEGRITY OF THE BUILDING ENVELOPE.

THE CONTRACTOR / BUILDER ASSUMES THE FULL RESPONSIBILITY FOR THE CORRECT INSTALLATION OF ALL EXTERIOR FINISHES AND WEATHERPROOFING .

THE TYPE OF EXTERIOR FINISH, THE INSTALLATION AND THE WATERPROOFING DETAILS ARE ALL TO BE THE FULL RESPONSIBILITY OF THE OWNER / BUILDER . THIS DESIGNER ASSUMES NO RESPONSIBILITY FOR THE INTEGRITY OF THE BUILDING ENVELOPE AND THE FINAL MANUFACTURED TRUSSES .



FRONT ELEVATION
SCALE: 1/4" = 1'-0"

SQUARE FOOTAGE	
MAIN LEVEL FLOOR AREA	+ 576 SQ. FT.
UPPER LEVEL FLOOR AREA	+ 424 SQ. FT.
TOTAL SQUARE FOOTAGE	+1000 SQ. FT.
COVERED PORCH	+ 144 SQ. FT.

McIntire Design
4222 COMMERCE STR.
Eugene, OR 97402
SUITE - 2K
(541) 284-2126
Cell: (541) 517-4304
mcintiredesign@gmail.com

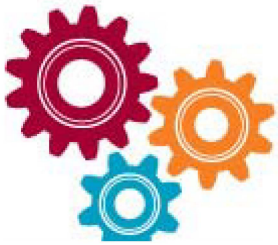
TWO BEDROOM w/ BONUS ROOM ABOVE
SINGLE FAMILY DWELLING
MAP and TAX LOT No.
20-03-33-34--14000
EUGENE, OR 97401
541-485-6638

DRWN: george
DATE: 5-11-18
REV:
CAD FILE: 18029
SHEET
1
OF X SHEETS

Community Outreach Plan

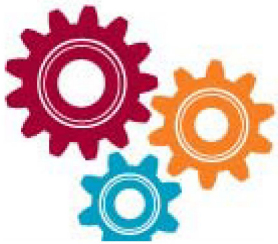
- Community Info Meetings (Now - August)
  - Generate Interest from Potential Buyers
  - Check Assumptions
- Classes and Counseling (Fall 2018)
- Pre-Qualification / Waiting List (Late 2018)

- General Contractor RFQ (Responses 6/13)



Timeline and Next Steps

- ❖LIFT Application Due June 25th
- Awards in October
- Construction Start…February/March???
- Homes Sold Late 2019 / Early 2020



Potential City Financial Support

City of Florence
A City in Motion

- NEDCO / WNHS to apply for:
  - Oregon Housing & Community Services LIFT Homeownership / Land Trust Grant
  - Application Due June 25th
- Seeking Support from the City of Florence through
  - Agreement of intent to sell site for less than property value
  - 2017 Lane County Real Market Value = $238,371
- Site Purchase Agreement
  - Contingent on award of grant funds
  - Allows State to be assured project can move forward if / when funds are awarded
  - Local government financial buy-in makes grant application competitive

Relationship to Council Goals

City of Florence
A City in Motion

1. Need for Housing High Priority of the 2017-19 Work Plan
2. 2017 Housing Needs Analysis
   - Florence has a pent-up housing demand of more than 500 units
3. Community support for need for housing solutions
4. Innovative solution
   - potential to be replicable throughout Florence

June 4th City Council Options

City of Florence
A City in Motion

1. Offer Preliminary Approval of proposed purchase agreement and Authorize Staff to proceed with a Public Hearing at the June 18th City Council Meeting

2. Request staff negotiate with NEDCO / WNHS on proposed purchase agreement…
   - including sales price and/or agreement term

   Authorize Staff to proceed with a Public Hearing at the June 18th City Council Meeting

3. Do not authorize the sale of the property

Recommendation

City of Florence
A City in Motion

- Offer Preliminary Approval of proposed purchase agreement, and
- Authorize Staff to proceed with a Public Hearing / Decision at the June 18th City Council Meeting

Should Council Indicate Preliminary Support:

- Between the June 4th and June 18th City Council Meetings staff will…
  - Coordinate with NEDCO / WNHS for outreach to potential homebuyers
  - Coordinate with NEDCO / WNHS for outreach to local contractors for project submittal
  - Prepare public hearing notices for June 18th City Council meeting

City of Florence
A City in Motion

Thank You!