

AGENDA

REGULAR CITY COUNCIL MEETING

July 8, 2013

5:30 p.m.

CITY HALL COUNCIL CHAMBER
313 COURT STREET
THE DALLES, OREGON

1. CALL TO ORDER
2. ROLL CALL OF COUNCIL
3. PLEDGE OF ALLEGIANCE
4. APPROVAL OF AGENDA
5. PRESENTATIONS/PROCLAMATIONS
 - A. Certificate of Recognition to Doug Leash

6. AUDIENCE PARTICIPATION

During this portion of the meeting, anyone may speak on any subject which does not later appear on the agenda. Five minutes per person will be allowed. If a response by the City is requested, the speaker will be referred to the City Manager for further action. The issue may appear on a future meeting agenda for City Council consideration.

7. CITY MANAGER REPORT
8. CITY ATTORNEY REPORT
9. CITY COUNCIL REPORTS
10. CONSENT AGENDA

Items of a routine and non-controversial nature are placed on the Consent Agenda to allow the City Council to spend its time and energy on the important items and issues. Any Councilor may request an item be "pulled" from the Consent Agenda and be considered separately. Items pulled from the Consent Agenda will be placed on the Agenda at the end of the "Action Items" section.

CITY OF THE DALLES

"By working together, we will provide services that enhance the vitality of The Dalles"

- A. Approval of June 24, 2013 Regular City Council Meeting Minutes
- B. Authorization for City Clerk to Endorse Annual OLCC License Renewals
- C. Authorization to Provide Sanitary Sewer Service to Properties Owned by Cynthia Homberg Located at 1061, 1061A, 1061B and 1061C Irving Street, Outside City Limits

11. PUBLIC HEARINGS

- A. Public Hearing to Receive Testimony Regarding Proposed Ballot Measure to Increase the Fuel Tax or County Service District Property Tax [**Agenda Staff Report #13-048**]

12. ACTION ITEMS

- A. Approval of QLife Broadband Strategic Plan [**Agenda Staff Report #13-049**]
- B. Resolution No. 13-024 Accepting a Dedication of Property from Elk Horn Development, LLC for Public Street Purposes [**Agenda Staff Report #13-050**]
- C. Resolution No. 13-023 Adopting a Fraud Policy for the City of The Dalles [**Agenda Staff Report #13-051**]

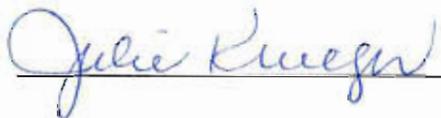
13. DISCUSSION ITEMS

- A. Discussion Regarding Fluoridation of the City's Drinking Water Supply [**Agenda Staff Report #13-042**]

14. ADJOURNMENT

This meeting conducted in a handicap accessible room.

Prepared by/
Julie Krueger, MMC
City Clerk



CERTIFICATE OF APPRECIATION

issued to

Doug Leash

This Certificate is issued in grateful appreciation of your faithful, creative and persistent work as a leader, worker and genius behind the rehabilitation and preservation of St. Peter's Landmark.

The community owes you a debt of gratitude beyond its ability to pay. Your work as decorator, painter, plumber, groundskeeper, bookkeeper, grant writer and inspirational leader over the years is a hallmark of volunteerism and an incredible example to us all.

On behalf of the City Council and the citizens of The Dalles, please accept our sincerest appreciation and thanks for your selfless dedication and work to preserve, protect and sustain St. Peter's Landmark so that it can be enjoyed by generations for years to come.

Dated this 8th day of July, 2013.



Stephen E. Lawrence, Mayor

Attest:

Julie Krueger, MMC, City Clerk



CITY of THE DALLES

313 COURT STREET
THE DALLES, OR 97058

PH. (541) 296-5481
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AGENDA STAFF REPORT
CITY OF THE DALLES

| MEETING DATE | AGENDA LOCATION | AGENDA REPORT # |
|---------------------|-----------------------------|------------------------|
| July 8, 2013 | Consent Agenda 10, A - C | N/A |

TO: Honorable Mayor and City Council

FROM: Julie Krueger, MMC, City Clerk

THRU: Nolan K. Young, City Manager

DATE: June 12, 2013

ISSUE: Approving items on the Consent Agenda and authorizing City staff to sign contract documents.

A. **ITEM:** Approval of June 24, 2013 Regular City Council Meeting Minutes.

BUDGET IMPLICATIONS: None.

SYNOPSIS: The minutes of the June 24, 2013 regular City Council meeting have been prepared and are submitted for review and approval.

RECOMMENDATION: That City Council review and approve the minutes of the June 24, 2013 regular City Council meeting.

B. **ITEM:** Authorization for City Clerk to Endorse Annual OLCC License Renewals.

BUDGET IMPLICATIONS: The City collects a \$35 fee for each renewal, which is credited to the General Fund.

SYNOPSIS: The list of renewals is attached. The Police Department has investigated and recommends the licenses be renewed.

RECOMMENDATION: That City Council authorize the City Clerk to endorse the annual OLCC license renewals.

C. **ITEM:** Authorization to Provide Sanitary Sewer Service to Properties Owned by Cynthia Homberg Located at 1061, 1061A, 1061B and 1061C Irving Street, Outside City Limits.

BUDGET IMPLICATIONS: Prior to connection, the applicant would be charged a Sewer SDC of \$1789 per lot to connect to the City system. The applicant can then either pay the City on a time and materials basis for work necessary make the connections to the public sewer system in the Right-of-Way, or pay a contractor approved by the City to make those connections. Lastly, the applicant will be charged Out of City rates for monthly sanitary sewer service, currently \$73.59/month per service.

SYNOPSIS: The City has received a request from Cynthia Homberg with four lots located at 1061, 1061A, 1061B, and 1061C Irvine Street to connect to the City's sanitary sewer system due to a failing septic systems. The City's Sewer Ordinance (No. 97-1213) requires City Council's authorization to provide sanitary sewer service to properties outside the City limits. If allowed, this service would be connected to an existing sanitary sewer main located in Irvine Street adjacent to the properties. The City's pipeline has the capacity to accommodate the request.

As a condition of service, the applicant will be required to sign a Consent to Annexation consistent with the provisions of Ordinance No. 97-1213.

RECOMMENDATION: Approve the request to provide sanitary sewer service to 1061, 1061A, 1061B, and 1061C Irvine Street.

MINUTES

REGULAR COUNCIL MEETING
OF
JUNE 24, 2013
5:30 P.M.

THE DALLES CITY HALL
313 COURT STREET
THE DALLES, OREGON

PRESIDING: Mayor Steve Lawrence

COUNCIL PRESENT: Bill Dick, Carolyn Wood, Dan Spatz, Tim McGlothlin, Linda Miller

COUNCIL ABSENT: None

STAFF PRESENT: City Manager Nolan Young, City Attorney Gene Parker, City Clerk Julie Krueger, Public Works Director Dave Anderson, Police Chief Jay Waterbury, Engineer Dale McCabe

CALL TO ORDER

Mayor Lawrence called the meeting to order at 5:33 p.m.

ROLL CALL

Roll call was conducted by City Clerk Krueger; all Councilors present.

PLEDGE OF ALLEGIANCE

Mayor Lawrence invited the audience to join in the Pledge of Allegiance.

APPROVAL OF AGENDA

It was moved by Spatz and seconded by Wood to approve the agenda as presented. The motion carried unanimously.

PROCLAMATIONS/PRESENTATIONS

Mayor Lawrence read a Proclamation that had been presented on June 22 to honor the Relay for Life event and declared the week of June 22 through 28 as Relay for Life Week.

AUDIENCE PARTICIPATION

None.

CITY MANAGER REPORT

None.

CITY ATTORNEY REPORT

City Attorney Parker said he had been working with the Airport Managers to investigate the concept of financing the construction of a hangar through Klickitat County. Parker said he had been assisting in drafting amendments to the Land Use Development Ordinance to address the recently adopted House Bill 3479. He said the Planning Commission would be reviewing options at their meeting on July 18.

Parker said the City had been approached by Fun Country to allow them to drive ATV's across Second Street from their shop to fuel them up for new customers. Parker said he would be working on language and bring for Council consideration in July.

Mayor Lawrence asked if the City Attorney would be preparing a written legal opinion regarding HB 3479. City Attorney Parker said he had shared his analysis with the City Council but could provide more in depth information. Mayor Lawrence said he would like the City Council to meet with the Planning Commission to discuss the matter but had been told the Council should not attend Planning Commission meetings because the Council was an appeal body.

City Manager Young said the Council could meet with the Planning Commission in a work session to discuss the issue. It was the consensus of the Council to meet with the Planning Commission in a work session on July 18.

Lawrence said there had been a suggestion to form a citizen task force. City Manager Young said no action had been taken on that suggestion because it was the job of the Planning Commission to serve as a task force.

CITY COUNCIL REPORTS

Councilor Wood said she had attended the Council of Governments hearing regarding increasing building permit fees. She said they had decided not to implement an increase at this time. Wood said she had attended the Historic Columbia River Highway meeting where access to the Riverfront Trail was discussed. She said the trail fit into their goal of restoring the highway. Wood said the Moffett Creek portion of the highway would be dedicated in the Fall and that planning had been started on the section from Wyeth to Mitchell Point, with the ultimate goal of completion by 2016. Wood said she would be attending the Historic Landmarks Commission and QLife Agency meetings later in the week.

Councilor McGlothlin reported that he attended the Traffic Safety Commission meeting, with topics of discussion including a review of bike access and the congestion issue on Kelly Avenue between 10th and 12th Streets. He reported on the recent Airport Board meeting, saying they had an update on the business park project, runway work, report on the finances and a discussion regarding financing to construct a new hangar for Life Flight. He said one idea was to partner with Mid Columbia Medical Center for financing since it was related to medical emergencies.

Mayor Lawrence asked if the Traffic Safety Commission had discussed his concern regarding the need for a four-way stop at Fifth and Court Streets. McGlothlin said the matter was not discussed but he would ask to have it added to the next agenda.

Councilor Wood noted there was a sign at the Discovery Center turn off, coming from the west, that directed people to the bike trail. She said it had been noted that people walking on the Riverfront Trail could be in danger if the people riding bikes were not aware of the pedestrian traffic on the trail. She asked if the Riverfront Trail Board could install some type of sign to let bikers know they were sharing the trail with pedestrians.

Councilor Spatz said the Mid Columbia Economic Development District had applied for an Advanced Technology Grant and were waiting to see if it was approved. He said the Scenic Highway project, discussed by Councilor Wood, was a great opportunity for the community to realize an economic benefit.

Councilor Miller reported that the Urban Renewal Advisory Committee and Urban Renewal Agency had met in a joint work session to review the history of urban renewal and to discuss a way to measure the effectiveness of the Plan. She said staff would be developing criteria to help prioritize the projects.

Mayor Lawrence said he had also attended the meeting regarding the Historic Highway 30 project and had spoken with a film maker who hoped to include a feature on The Dalles. He said

MINUTES (Continued)
Regular Council Meeting
June 24, 2013
Page 4

The Dalles would be the end of the trail and should be prepared for the coming tourists. Lawrence said he had attended the Relay for Life event on Saturday and provided opening remarks for a recent convention for the Eagles Club.

CONSENT AGENDA

It was moved by Wood and seconded by Spatz to approve the Consent Agenda as presented. The motion carried unanimously.

Items approved by Consent Agenda were 1) approval of June 10, 2013 regular City Council meeting minutes; 2) approval of Amendment No. 6 of Operations Management International (OMI) agreement to operate the City's wastewater treatment plant; and 3) approval of worker's compensation insurance renewal.

PUBLIC HEARINGS

Public Hearing to Receive Testimony Regarding a Ballot Measure for a Proposed Fuel Tax Increase

Mayor Lawrence reviewed the procedures to be followed for the public hearing.

The staff report was reviewed by City Manager Young. He reviewed the supplemental information regarding a concept to propose a single ballot measure of both the City and Wasco County to try to resolve street operation and maintenance challenges.

Councilor Spatz said he liked the concept of partnering with the County.

Councilor McGlothlin asked if the proposal was based on creating a property tax. City Manager Young said that was correct. McGlothlin said he liked the idea of partnering but the City needed to address its need to develop a revenue source to catch up on the maintenance projects.

Councilor Miller asked if the County also received revenue from the State fuel tax. City Manager said they did, but it was distributed on a formula based on the number of vehicles registered in the County, while the City's formula was based on population. It was noted the County received approximately \$1.7 million in State fuel tax revenue.

Mayor Lawrence asked how a maintenance district would operate. City Manager Young said it would be a special district for operations, similar to the Library District and the County and City would form agreements regarding the distribution of the funds and sharing of resources.

Lawrence asked if the measure passed, whether tax increment financing would be impacted. City Manager Young said he believed additional taxes would be collected for urban renewal through the measure.

Councilor Spatz asked if an analysis had been prepared to determine the impact to other taxing districts. City Manager Young said a full analysis had not been completed, but he believed it would impact compression.

Testimony

Doug Hattenhauer, 201 West First Street, The Dalles, spoke in opposition of an increase to the fuel tax. He said the City had received the benefit of the local fuel tax for many years, but the streets were not being well taken care of. He said an additional tax would cause trucks to stop coming to The Dalles and to fuel in Biggs to save money, which would cause him to lose money. He questioned why more maintenance was not being done with the addition of State fuel tax and said a 20 year bond for \$6 million would result in costing \$9 million once paid back. Hattenhauer said the City was in crisis management because they didn't properly manage their funds.

Councilor Miller asked Mr. Hattenhauer if he supported the option of forming a taxing district with the County instead of an increase to the fuel tax. Hattenhauer said he didn't believe a property tax measure would pass. He said the City should be happy with the money they receive and not increase the tax. He said he would oppose the measure if placed on the ballot.

Chuck Langley, 200 West Fourth Street, The Dalles, spoke in opposition of the proposed fuel tax increase, saying he agreed with the comments made by Mr. Hattenhauer.

Jerry Johnson, 3102 East 13th Street, spoke in opposition of an increased fuel tax and said that public access roads, such as the one he lived on would receive no benefit because they were not maintained by either the City or the County.

Chuck Covert, 3819 Columbia View Drive, The Dalles, spoke on behalf of the Wasco County Road Advisory Committee, saying the Committee had been looking at the County's operations, revenues, and talking to citizens about the County's issues. He said they were discussing a tax levy or fuel tax for the County and then the scenario was developed to partner with the City with a maintenance district.

Covert said the County road conditions were slowly deteriorating. He said they had an approximate \$1.25 million shortfall to continue with their maintenance programs and noted that several years ago, 85% of the roads were in good condition, but only 80% were in good condition at this time.

Councilor Spatz said he believed there was hope that timber revenue could be restored in some fashion.

There was a discussion regarding the need to restore timber revenues, restore forests and put people back to work in the timber industry.

Wasco County Commissioner Steve Kramer asked that the City Council delay a decision to allow additional time to consider the option of a partnership for street maintenance of the County and City.

Hearing no further testimony, the public hearing was closed.

It was the consensus of the City Council to conduct an additional public hearing on July 8 to receive testimony regarding a possible City and County maintenance district and additional testimony regarding a proposed fuel tax increase, to be placed on the November ballot.

CONTRACT REVIEW BOARD ACTIONS

Award Contract for Webber Street Water Main Construction Project

Engineer McCabe reviewed the staff report.

Mayor Lawrence asked where the project was included in the budget. It was noted the funds were included in the capital projects line item.

It was moved by Wood and seconded by Miller to authorize the City Manager to enter into contract with Northwest Kodiak Construction in an amount not to exceed \$437,021.28 for the Webber Street water main construction project. The motion carried unanimously.

ACTION ITEMS

Resolution No. 13-022 Amending the City's Local Limits for Waste Discharges to the Sanitary Sewer System

Public Works Director Anderson reviewed the staff report.

Mayor Lawrence said the previously approved OMI agreement had noted four businesses that had not been tested. He asked if the adoption of this resolution would impact those businesses that hadn't been tested yet.

Public Works Director Anderson said those businesses were not required to be tested at this time.

It was moved by McGlothlin and seconded by Wood to adopt Resolution No. 13-022 amending the City's local limits for waste discharges to the sanitary sewer system. The motion carried unanimously.

Approval of Police Association Collective Bargaining Agreement

City Manager Young reviewed the staff report.

It was moved by Spatz and seconded by Wood to approve the proposed Collective Bargaining Agreement with The Dalles Police Association as presented. The motion carried unanimously.

Resolution No. 13-025 Authorizing Transfers of Funds Between Categories of the Transportation Systems Reserve Fund and Between the Transportation System Reserve Fund and the Capital Project Fund, Making Appropriations and Authorizing Expenditures for the Fiscal Year Ending June 30, 2013

City Manager reviewed the staff report.

It was moved by Dick and seconded by Wood to adopt Resolution No. 13-025. The motion carried unanimously.

ADJOURNMENT

Being no further business, the meeting adjourned at 7:10 p.m.

Submitted by/
Julie Krueger, MMC
City Clerk

SIGNED:

Stephen E. Lawrence, Mayor

ATTEST:

Julie Krueger, MMC, City Clerk

**CITY of THE DALLES**

401 COURT STREET
THE DALLES, OR 97058
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POLICE DEPARTMENT

MEMORANDUM

DATE: June 25, 2013
TO: Julie Kruger, City Clerk
FROM: Jay B. Waterbury, Chief of Police
SUBJECT: 2013 Annual OLCC Renewals

The following outlets have been investigated and are approved for OLCC license renewal for the fiscal year 2013 – 2014.

9th St. Sugarbowl
Allen's Food Center
American Legion Post # 19
Anana's Boutique
Astro Express Mart #264
Baldwin Saloon
Bi-Mart #645
Canton Wok
Casa El Mirador
Celilo Inn
Civic Auditorium
Clock Tower Ales
Columbia Portage Grill
Columbia View Station & Mini Mart
Comfort Inn
Cousin's
Denny's #6807
Dinty's Market
Downtown Chevron & Food Mart
Eagles Lodge #2126
Elks Lodge #303
Fred Meyer
Gone Country
Hatt's 76 Fuel Stop
HiWay House
Ixtapa
Jack's Mini Market # 2
Juanita's Markets
Kmart #3888

La Cabana
La Michoacana
Lone Pine 76
Maison de Glace Winery
Montira's Thai Cuisine
Moose Lodge #2075
Petite Provence
Poppy's Mini Mart
Portside Pub and Windseeker
Quenett Winery
Rite Aid #5334
Riverenza
Romul's
Safeway #1489
Shari's #247
Skipper's
Spooky's
Taco Del Mar
The Barbeque
The Dalles Grocery Outlet
The Vault Bistro & Lounge
Tijuana
Walgreen's
Water's Edge Bistro
West 6th Street 76
West Second Food Mart
Windy River
Zim's Brau Haus



CITY of THE DALLES

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AGENDA STAFF REPORT
CITY OF THE DALLES

| MEETING DATE | AGENDA LOCATION | AGENDA REPORT # |
|---------------------|-------------------------|------------------------|
| July 8, 2013 | Public Hearing 11, A | 13-048 |

TO: Mayor and City Council

FROM: Nolan K. Young, City Manager *nyj*

DATE: June 26, 2013

ISSUE: Public Hearing on November ballot for either local three cent fuel tax or County Service District Property Tax

RELATED CITY COUNCIL GOAL: Goal 4 A. Investigate funding options for street projects.

PRIOR AGENDA STAFF REPORTS: 13-039 Discussion regarding funding of street maintenance program (attached). Public hearing regarding potential ballot measure for local 3 cent fuel tax (ASR 13-046 attached). Supplemental information for the June 24, 2013 meeting regarding street funding challenge (copy attached).

BACKGROUND: On April 1, the City Council held a work session to discuss street funding needs. Attached are two PowerPoint presentations that were given at that meeting identifying first, preventative maintenance needs; and second, maintenance funding options. The Council has further discussed these issues at both June Council meetings; we have attached all the information from those meetings as background.

CURRENT OPTIONS BEING CONSIDERED: The Council is currently considering support of one of two ballot measures to be placed on the November 2013 ballot.

1. Three cent local fuel tax. This tax will be in addition to the current three cent local tax already charged by the City. It will be for a 20 year period, specifically for the purposes of retiring debt of approximately \$6.1 million. Attachment 1 is an amortization table showing the principal and interest that would be paid at 4%

interest paid out over a twenty year period; with \$6.1 million principal, and \$2,819,602 in interest.

2. City/County Road District. This option would have the City and County partner on a special road district that would have a new tax rate which would initially raise \$1.25 million for the County and \$750,000 for the City, for a total of \$2 million. Attached is concept paper from the June 24 meeting. It has been estimated that to raise \$2 million, a tax rate of \$1.1263 per thousand dollars of assessed value would be required.

There were some questions raised at the last public hearing for which we need to provide additional information:

1. Identify how road funds have been spent including transfers to the General Fund. Attachment 2 identifies a 5 year history of Street Fund revenue and expenditures, broken down into several categories. During that period of time the City did shift street sweeping to the wastewater fund to make more dollars available for street projects. In addition, the general monies of the City (primarily through the State Office Building lease) are being used to help pay for street departments' share of the West First LID.
2. We are still checking with the assessor to see if the rate of any new district would be applied to the Urban Renewal District's tax increment.
3. We were asked to analyze the impact on other taxing districts. We have looked at two areas:
 - a. Compression: We are still talking with the County assessor on if there will be any additional compression.
 - b. Competition: We sent an email to the other taxing districts in the community, and identified that NWC Parks and Rec will have a \$5 million for an outdoor swimming pool on the ballot.

COMPARISON OF THE TWO MEASURES: To assist the Council in evaluating which of these measures would be in the best interest of the City and its residents, as well as having the best chance of success, we have prepared Attachment 3 that identifies the advantages and disadvantages of each measure. We have shared this list with Wasco County.

STAFF RECOMMENDATION: We recommend that the City Council place a 20 year, three cent local option fuel tax on the November 2013 ballot for the following reasons:

1. We believe it will have the best chance of success.
2. It is the revenue source that most closely charges the users of the City streets for the cost of maintaining them.
3. Two separate measures from two separate sources (City from fuel tax and County from property tax) may create a better chance for both because it lowers the

financial reliance on property owners; and in many cases, even with both approved, will cost City and County residents less.

4. We have always tried, as a City, to stay away from additional property tax measures so that source is available to other tax supported agencies that lack some of the other revenue sources available to the City.

COUNCIL ALTERNATIVES: Following the public hearing, make one of the following motions:

1. *Staff recommendation: Direct staff to prepare a ballot measure for an additional three cent local fuel tax for 20 years for the July 22 City Council meeting.*
2. Direct staff to work with the County to create a joint Road Special Tax District, and prepare agreements between the City and the County for the City to receive approximately \$750,000 the first year and 37.5% of tax receipts each following year.
3. Direct staff to research specific items and place this item on the July 22 Council Agenda for further consideration.

Loan Amortization Schedule

| Enter values | |
|-----------------------------|-----------------|
| Loan amount | \$ 6,100,000.00 |
| Annual interest rate | 4.00 % |
| Loan period in years | 20 |
| Number of payments per year | 2 |
| Start date of loan | 08/01/2013 |
| Optional extra payments | |

| Loan summary | |
|------------------------------|-----------------|
| Scheduled payment | \$ 222,990.06 |
| Scheduled number of payments | 40 |
| Actual number of payments | 40 |
| Total early payments | \$ - |
| Total interest | \$ 2,819,602.46 |

| Pmt. No. | Payment Date | Beginning Balance | Scheduled Payment | Extra Payment | Total Payment | Principal | Interest | Ending Balance | Cumulative Interest |
|----------|--------------|-------------------|-------------------|---------------|---------------|---------------|---------------|-----------------|---------------------|
| 1 | 02/01/2014 | \$ 6,100,000.00 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 100,990.06 | \$ 122,000.00 | \$ 5,999,009.94 | \$ 122,000.00 |
| 2 | 08/01/2014 | \$ 5,999,009.94 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 103,009.86 | \$ 119,980.20 | \$ 5,896,000.08 | \$ 241,980.20 |
| 3 | 02/01/2015 | \$ 5,896,000.08 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 105,070.06 | \$ 117,920.00 | \$ 5,790,930.02 | \$ 359,900.20 |
| 4 | 08/01/2015 | \$ 5,790,930.02 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 107,171.46 | \$ 115,818.60 | \$ 5,683,758.55 | \$ 475,718.80 |
| 5 | 02/01/2016 | \$ 5,683,758.55 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 109,314.89 | \$ 113,675.17 | \$ 5,574,443.66 | \$ 589,393.97 |
| 6 | 08/01/2016 | \$ 5,574,443.66 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 111,501.19 | \$ 111,488.87 | \$ 5,462,942.48 | \$ 700,882.84 |
| 7 | 02/01/2017 | \$ 5,462,942.48 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 113,731.21 | \$ 109,258.85 | \$ 5,349,211.26 | \$ 810,141.69 |
| 8 | 08/01/2017 | \$ 5,349,211.26 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 116,005.84 | \$ 106,984.23 | \$ 5,233,205.43 | \$ 917,125.92 |
| 9 | 02/01/2018 | \$ 5,233,205.43 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 118,325.95 | \$ 104,664.11 | \$ 5,114,879.47 | \$ 1,021,790.03 |
| 10 | 08/01/2018 | \$ 5,114,879.47 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 120,692.47 | \$ 102,297.59 | \$ 4,994,187.00 | \$ 1,124,087.62 |
| 11 | 02/01/2019 | \$ 4,994,187.00 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 123,106.32 | \$ 99,883.74 | \$ 4,871,080.68 | \$ 1,223,971.36 |
| 12 | 08/01/2019 | \$ 4,871,080.68 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 125,568.45 | \$ 97,421.61 | \$ 4,745,512.23 | \$ 1,321,392.97 |
| 13 | 02/01/2020 | \$ 4,745,512.23 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 128,079.82 | \$ 94,910.24 | \$ 4,617,432.42 | \$ 1,416,303.22 |
| 14 | 08/01/2020 | \$ 4,617,432.42 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 130,641.41 | \$ 92,348.65 | \$ 4,486,791.00 | \$ 1,508,651.86 |
| 15 | 02/01/2021 | \$ 4,486,791.00 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 133,254.24 | \$ 89,735.82 | \$ 4,353,536.76 | \$ 1,598,387.68 |
| 16 | 08/01/2021 | \$ 4,353,536.76 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 135,919.33 | \$ 87,070.74 | \$ 4,217,617.43 | \$ 1,685,458.42 |
| 17 | 02/01/2022 | \$ 4,217,617.43 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 138,637.71 | \$ 84,352.35 | \$ 4,078,979.72 | \$ 1,769,810.77 |
| 18 | 08/01/2022 | \$ 4,078,979.72 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 141,410.47 | \$ 81,579.59 | \$ 3,937,569.25 | \$ 1,851,390.36 |
| 19 | 02/01/2023 | \$ 3,937,569.25 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 144,238.68 | \$ 78,751.39 | \$ 3,793,330.58 | \$ 1,930,141.75 |
| 20 | 08/01/2023 | \$ 3,793,330.58 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 147,123.45 | \$ 75,866.61 | \$ 3,646,207.13 | \$ 2,006,008.36 |
| 21 | 02/01/2024 | \$ 3,646,207.13 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 150,065.92 | \$ 72,924.14 | \$ 3,496,141.21 | \$ 2,078,932.50 |
| 22 | 08/01/2024 | \$ 3,496,141.21 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 153,067.24 | \$ 69,922.82 | \$ 3,343,073.97 | \$ 2,148,855.33 |
| 23 | 02/01/2025 | \$ 3,343,073.97 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 156,128.58 | \$ 66,861.48 | \$ 3,186,945.39 | \$ 2,215,716.81 |
| 24 | 08/01/2025 | \$ 3,186,945.39 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 159,251.15 | \$ 63,738.91 | \$ 3,027,694.24 | \$ 2,279,455.71 |
| 25 | 02/01/2026 | \$ 3,027,694.24 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 162,436.18 | \$ 60,553.88 | \$ 2,865,258.06 | \$ 2,340,009.60 |
| 26 | 08/01/2026 | \$ 2,865,258.06 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 165,684.90 | \$ 57,305.16 | \$ 2,699,573.16 | \$ 2,397,314.76 |
| 27 | 02/01/2027 | \$ 2,699,573.16 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 168,998.60 | \$ 53,991.46 | \$ 2,530,574.56 | \$ 2,451,306.22 |
| 28 | 08/01/2027 | \$ 2,530,574.56 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 172,378.57 | \$ 50,611.49 | \$ 2,358,195.99 | \$ 2,501,917.71 |
| 29 | 02/01/2028 | \$ 2,358,195.99 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 175,826.14 | \$ 47,163.92 | \$ 2,182,369.85 | \$ 2,549,081.63 |
| 30 | 08/01/2028 | \$ 2,182,369.85 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 179,342.66 | \$ 43,647.40 | \$ 2,003,027.18 | \$ 2,592,729.03 |
| 31 | 02/01/2029 | \$ 2,003,027.18 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 182,929.52 | \$ 40,060.54 | \$ 1,820,097.67 | \$ 2,632,789.57 |
| 32 | 08/01/2029 | \$ 1,820,097.67 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 186,588.11 | \$ 36,401.95 | \$ 1,633,509.56 | \$ 2,669,191.53 |
| 33 | 02/01/2030 | \$ 1,633,509.56 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 190,319.87 | \$ 32,670.19 | \$ 1,443,189.69 | \$ 2,701,861.72 |
| 34 | 08/01/2030 | \$ 1,443,189.69 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 194,126.27 | \$ 28,863.79 | \$ 1,249,063.42 | \$ 2,730,725.51 |
| 35 | 02/01/2031 | \$ 1,249,063.42 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 198,008.79 | \$ 24,981.27 | \$ 1,051,054.63 | \$ 2,755,706.78 |
| 36 | 08/01/2031 | \$ 1,051,054.63 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 201,968.97 | \$ 21,021.09 | \$ 849,085.66 | \$ 2,776,727.87 |
| 37 | 02/01/2032 | \$ 849,085.66 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 206,008.35 | \$ 16,981.71 | \$ 643,077.31 | \$ 2,793,709.59 |
| 38 | 08/01/2032 | \$ 643,077.31 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 210,128.52 | \$ 12,861.55 | \$ 432,948.79 | \$ 2,806,571.13 |
| 39 | 02/01/2033 | \$ 432,948.79 | \$ 222,990.06 | \$ - | \$ 222,990.06 | \$ 214,331.09 | \$ 8,658.98 | \$ 218,617.71 | \$ 2,815,230.11 |
| 40 | 08/01/2033 | \$ 218,617.71 | \$ 222,990.06 | \$ - | \$ 218,617.71 | \$ 214,245.35 | \$ 4,372.35 | \$ - | \$ 2,819,602.46 |

**STREET REVENUE AND EXPENDITURE
FIVE YEAR HISTORY**

| New Revenues | FY 08/09 | FY 09/10 | FY 10/11 | FY 11/12 | FY 12/13 |
|-----------------------------------|------------------|------------------|------------------|------------------|------------------|
| | Actual | Actual | Actual | Actual | Estimated |
| Local Option Gas Tax | 374,608 | 405,497 | 396,102 | 434,026 | 458,965 |
| State Motor Vehicle Fund | 505,977 | 554,319 | 658,647 | 783,286 | 810,619 |
| Water/Wastewater Fee | 212,082 | 236,753 | 154,980 | 156,662 | 164,959 |
| Total | 1,092,667 | 1,196,569 | 1,209,729 | 1,373,974 | 1,434,543 |
| | | | | | |
| Expenses | | | | | |
| Personnel | 674,827 | 646,133 | 591,582 | 617,269 | 659,012 |
| Street Lights | 77,684 | 76,767 | 79,133 | 79,459 | 87,156 |
| Maintenance Construction Supplies | 42,306 | 133,001 | 119,382 | 89,132 | 105,372 |
| Other Operating Costs | 223,221 | 223,691 | 189,518 | 223,816 | 255,836 |
| Capital Improvments | 7,186 | 9,477 | 2,166 | 10,511 | 203,704 |
| Admin Transfers to General Fund | 107,240 | 114,352 | 118,740 | 124,667 | 145,119 |
| Debt (PW Shops) | 53,512 | 56,476 | 59,413 | 59,971 | 60,444 |
| Total | 1,185,976 | 1,259,897 | 1,159,934 | 1,204,825 | 1,516,643 |

**Comparison of two Street Funding Options
Advantages and disadvantages
June 27, 2013**

THREE CENT FUEL TAX

Pros:

- Fairness: users pay
- Out of area users of street system help pay the costs
- Less impact on payers (estimated at \$24 to \$40 per year)¹
- Sunsets in 20 years
- Tax will not inflate over time
- Provides a diversified method of paying for both City streets and County roads²

Cons:

- Marginally meets City street maintenance needs
- Doesn't fix all roads. Many residential neighborhood streets will still have delayed maintenance
- County gets no monies from this tax measure
- May compete with County tax measure for roads
- Perception of local fuel competitive disadvantaged with outside fuel providers
- Inflation of street maintenance cost not covered by tax
- Fuel efficiency reduces revenue

ROAD DISTRICT (Property Tax)

Pros:

- More money for City allows more neighborhood streets to be repaired
- City funding more stable
- City/County partnership prevents competition between tax measures
- County road needs also met
- Some other property tax measures expiring lowers impact of new tax measure on tax bill
- Will have annual increase up to 3% to meet increased costs

Cons:

- Need agreement details worked out before election
- Limited time to analyze final agreement
- @ \$100,000 house tax rate of \$1.1263 = \$112.63 per year³
- Property owners pay, not users of the streets.
- Distribution not proportionate to area collected from (City Limits and non-city areas)⁴
- Competes with measures from other districts
- Impacts other taxing districts through compression
- Common perception of high property taxes
- Increases impact on rate payer with inflation

¹ Estimated at 12,000 miles /year for a 1 car family, and 20,000 per year for a two car family getting an average of 15 miles per gallon.

² County rate for 1.25 M would be 0.7040/thousand: \$70.40 on \$100,000 assessed value

³ City portion of \$750,000 has a rate of .4223 or \$42.23 per year on \$100,000 assessed value

⁴ City residents will be paying for a portion of the County road costs



CITY of THE DALLES

313 COURT STREET
THE DALLES, OREGON 97058

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FAX (541) 296-6906

AGENDA STAFF REPORT CITY OF THE DALLES

| MEETING DATE | AGENDA LOCATION | AGENDA REPORT # |
|---------------|-------------------------|-----------------|
| June 24, 2013 | Public Hearing 11, A | 13-046 |

TO: Mayor and City Council

FROM: Nolan K. Young, City Manager *NKY*

DATE: June 12, 2013

ISSUE: Public Hearing Regarding Potential Ballot Measure for Local 3 Cent Gas Tax

RELATED CITY COUNCIL GOAL: Goal 4A Investigate funding options for street projects.

PRIOR AGENDA STAFF REPORTS: 13-039 Discussion Regarding Funding of Street Maintenance Program.

BACKGROUND: At the regular City Council Meeting of June 10, the City Council discussed the funding of the street maintenance program. To address the current backlog of maintenance needs of City asphalt streets, which have been accepted by the City for maintenance, necessitated development of a funding plan. After considering options the Council elected to consider a bond issue approach where the City would issue one or two bonds that would be utilized to obtain upfront money to allow us to catch up on much of the deferred street maintenance and allow us to use the current street revenue to implement a strong preventative maintenance program and address other neighborhood street needs.

In order to pay back this bond, staff recommended that Council adopt a plan where a gas tax increase would be placed on the November 4, 2013 ballot. Table I below identifies the estimated amount of revenue each level of tax is projected to raise, and the estimated bond amount, for different terms of retirement.

Table I: Gas Tax Revenue for Bond Retirement

| | Annual Revenue | 10 year Bond | 15 year Bond | 20 year Bond |
|--------------------------|----------------|--------------|--------------|--------------|
| Gas Tax Increase 1 cent | \$ 150,000 | \$ 1,200,000 | \$ 1,600,000 | \$ 2,000,000 |
| Gas Tax Increase 2 cents | 300,000 | 2,400,000 | 3,300,000 | 4,000,000 |
| Gas Tax Increase 3 cents | 450,000 | 3,600,000 | 5,000,000 | 6,100,000 |

The staff's recommendation is to issue a 3 cent gas tax increase for a 20 year period, to retire a 20 year bond. This would generate around \$6.1 million for street projects.

Attachment A is a proposed Gas Tax Election Schedule which calls for a public hearing on June 24, and for the Council to consider adopting a resolution calling for the election on July 22. The final measure would be filed with the County Clerk on September 5, with the election to be November 4, 2013, and the tax to be implemented on January 2, 2014.

Attachment B shows the estimated costs for street projects planned to be financed by the bonds. Attachment C shows the classifications and the current pavement condition rating of those streets. Attachment D identifies additional local streets eligible for rehabilitation with supplemental funding, with the number of blocks involved, and condition rating. We anticipate that we would be able to complete between sixty and one hundred blocks of local streets with the addition funding of the 3 cent gas tax and a 20 year bond.

COUNCIL ALTERNATIVES:

1. ***Staff recommendation:*** Following the public hearing *direct staff to prepare a Ballot Measure for an additional 3 cent gas tax for 20 year period for the July 22 City Council meeting.*
2. Direct staff to place this item on the July 8 agenda for further discussion and consideration by the City Council, given direction on any additional information needed.

GAS TAX Election Schedule

| | |
|--------------|---|
| 29-May-13 | List of projects and funding alternatives sent to City Council |
| 10-Jun-13 | Council Discussion of alternatives |
| 24-Jun-13 | Council determines if they wish to pursue a gas tax increase; amount and term |
| 22-Jul-13 | City Council adopt resolution calling for election |
| 15-Aug-13 | Publish notice of ballot title |
| 25-Aug-13 | Appeal period for title |
| 5-Sep-13 | File the measure with county clerk |
| 4-Nov-13 | Election |
| Nov/Dec 2013 | Notify all fuel providers |
| 2-Jan-14 | Gas Tax implemented |

X

| Project Name | Description | Perform In-House or Contract | Estimated Cost |
|--|--|---|----------------|
| 2nd St, Taylor to Lincoln | Strip asphalt, CTB, 6" AC, no concrete X-walks | Full Contract | \$500,000 |
| 3rd St, Taylor to Lincoln+ side streets | Full depth profile/grade/pave full width, 10-yr fix | Contract profile, in-house grade/pave | \$200,000 |
| Court St, 5th to 10th | Profile/pave full width | Contract profile, in-house pave | \$90,000 |
| E 10th St, Union to Kelly | Profile/pave full width | Contract profile, in-house pave | \$115,000 |
| W 15th, Trevitt to Liberty Way | Profile/CTB/pave | Contract profile/mill, in-house pave | \$65,000 |
| E 12th, Kelly to Dry Hollow | Profile/pave full width | Contract profile, in-house pave | \$245,000 |
| Cherry Hts, 6th to 10th | Profile/pave curb to curb | Contract profile, in-house pave | \$60,000 |
| Webber, 6th to 10th | Crack seal, armor chip seal | In-house crack seal, County chip seal | \$30,000 |
| 2nd St, Lincoln to Webber | Profile/pave full width | Contract profile, in-house pave | \$380,000 |
| W 10th St, Cherry Hts to Walnut | Crack seal, armor chip seal | In-house crack seal, County chip seal | \$55,000 |
| Brewery Gr, Roundie thru 9th St | Profile/pave full width | Contract profile, in-house pave | \$80,000 |
| 4th St, Jefferson to 3rd Pl | Crack seal, armor chip seal | In-house crack seal, County chip seal | \$75,000 |
| W Scenic Dr, 17th to CGCC | Armor chip seal | County chip seal | \$95,000 |
| E Scenic Dr, 16th Pl to CGCC | Full depth profile/grade/pave full width (CTB +\$60k) | Contract profile, in-house grade/pave | \$205,000 |
| Col View Hts, E Knoll to Summit Rdg | Hot chip armor seal | Contract seal? | \$50,000 |
| Washington, 3rd to 7th Place | Hot chip single layer | Contract seal? | \$25,000 |
| Trevitt, 3rd Pl to 17th (street cost only) | Full reconstruction including curb/SW, 6" AC, 10" base | Full Contract w/ sanitary/storm upgrade | \$1,800,000 |
| Union, 4th to 14th | Strip asphalt, CTB, 6" AC, curb/sw rehab | Full Contract | \$556,000 |
| Subtotal | | | \$4,626,000 |
| Other candidate projects yet to consider and update costs: | | | |
| W 2nd, Webber to Snipes | Armor chip seal | County chip seal | \$47,500 |
| W 6th, Snipes to City Limits | Armor chip seal | County chip seal | \$75,000 |
| Brentwood Dr, Col Dr to Summit | Profile/pave full width | Contract profile, in-house pave | \$82,000 |
| Harris St, 9th St to Guardrail | Profile/pave full width | Contract profile, in-house pave | \$43,000 |
| Federal St, 7th to 10th | Construct curbs/sw, profile/pave full width | Contract curb/sw, in-house zip/CTB/pave | \$152,000 |
| Old Dufur Rd, Thompson to Richmond | Crack seal, armor chip seal | In-house crack seal, County chip seal | \$40,000 |
| 10th St, Dry Hollow to Thompson | Crack seal, armor chip seal | In-house crack seal, County chip seal | \$37,000 |
| 10th St, Lewis to Dry Hollow | Zip, CTB, 4" AC | In-house | \$48,000 |
| 13th St, Jordan to Washington | | | |
| 7th St, Pamona to Walnut | | | |
| 4th St Grade | Reconstruct sw, profile/pave full width | Contract curb/sw/profile, in-house pave | \$72,200 |
| Subtotal | | | \$596,700 |
| Total | | | \$5,222,700 |

Key:

AC: asphalt concrete, also called hot mix asphalt

CTB: Cement Treated Base - milling dry cement into base and wetting rather than excavating full depth and placing base rock. CTB done on E 19th St in 2012.

Profile: grinding and removing old asphalt

Armor chip seal: double layer of chip seal; done on upper Kelly Ave in 2012.

Hot chip seal: new technology that utilizes oil-coated chips and is applied hot with polymer, reduces rock waste & dust; yet to be analyzed for applicability.

TBD: To Be Determined

| Project Name | Street Classification (in Condition Rating Report) | 2013 Pavement Condition Rating | Estimated Cost |
|---|---|--------------------------------|--------------------|
| 2nd St, Taylor to Lincoln | Arterial | Fair/Poor | \$500,000 |
| 3rd St, Taylor to Lincoln + side streets | Arterial | Poor | \$200,000 |
| Court St, 5th to 10th | Arterial | Poor | \$90,000 |
| E 10th St, Union to Kelly | Arterial | Fair/Poor | \$115,000 |
| W 15th, Trevitt to Liberty Way | Local (Fort Dalles Museum) | Very Poor | \$65,000 |
| E 12th, Kelly to Dry Hollow | Arterial | Poor | \$245,000 |
| Cherry Hts, 6th to 10th | Arterial | Fair | \$60,000 |
| Webber, 6th to 10th | Arterial | Poor | \$30,000 |
| 2nd St, Lincoln to Webber | Arterial | Fair/Poor | \$380,000 |
| W 10th St, Cherry Hts to Walnut | Arterial | Fair | \$55,000 |
| Brewery Gr, Roundie thru 9th St | Arterial | Fair | \$80,000 |
| 4th St, Jefferson to 3rd Pl | Arterial | Poor | \$75,000 |
| W Scenic Dr, 17th to CGCC | Collector | Fair/Poor | \$95,000 |
| E Scenic Dr, 16th Pl to CGCC | Collector | Poor/Very Poor | \$205,000 |
| Col View Dr, E Knoll to Summit Rdg | Collector | Fair | \$50,000 |
| Washington, 3rd to 7th Place | Arterial | Fair | \$25,000 |
| Trevitt, 3rd Pl to 17th (street cost only) | Collector | Poor/Very Poor | \$1,800,000 |
| Old Dufur Rd, Thompson to Richmond | Arterial | Fair | \$40,000 |
| 10th St, Dry Hollow to Thompson | Arterial | Fair | \$37,000 |
| 10th St, Lewis to Dry Hollow | Arterial | Poor | \$48,000 |
| Union, 4th to 14th | Arterial | Fair/Poor | \$556,000 |
| Subtotal | | | \$4,751,000 |
| Other candidate projects yet to consider and update costs: | | | |
| W 2nd, Webber to Snipes | Arterial | Fair/Poor | \$47,500 |
| W 6th, Snipes to City Limits | Arterial | Fair | \$75,000 |
| Brentwood Dr, Col Dr to Summit | Local | Poor | \$82,000 |
| Harris St, 9th St to Guardrail | Local | Poor/Very Poor | \$43,000 |
| Federal St, 7th to 10th | Local | Very Poor | \$152,000 |
| 13th St, Jordan to Washington | Collector | Poor | TBD |
| 7th St, Pamona to Walnut | Collector | Fair/Poor | TBD |
| 4th St Grade | Collector | Fair | \$72,200 |
| Subtotal | | | \$471,700 |
| Total | | | \$5,222,700 |

Key:

AC: asphalt concrete, also called hot mix asphalt

CTB: Cement Treated Base - milling dry cement into base and wetting rather than excavating full depth and placing base rock. CTB done on E 19th St in 2012.

Profile: grinding and removing old asphalt

Armor chip seal: double layer of chip seal; done on upper Kelly Ave in 2012.

Hot chip seal: new technology that utilizes oil-coated chips and is applied hot with polymer, reduces rock waste & dust; yet to be analyzed for applicability.

TBD: To Be Determined

Local Streets Eligible for Rehabilitation with Supplemental Funding - 5/30/2013

("Poor" or worse Pavement Condition Rating)

| Project Name | Street Classification | 2013 Pavement Condition Rating | # of Blocks |
|---|-----------------------|--------------------------------|-------------|
| 7th Pl, Washington to Case | Local | Poor | 1 |
| 8th Pl, Chenowith St to Dead End | Local | Poor | 1 |
| 8th St, Snipes to west of Snipes | Local | Poor | 1 |
| 8th St, Bridge St to Union | Local | Poor | 6 |
| 8th St, Court to Kelly | Local | Poor | 4 |
| 8th St, west of Harris to Harris | Local | Poor | 1 |
| 9th St, Cherry Heights to bridge | Local | Poor | 1 |
| 9th St, Union to Kelly | Local | Poor | 3 |
| 11th St, Balkey Dr to Blakely Way | Local | Poor | 2 |
| 11th St, Wright to Trevitt | Local | Poor | 4 |
| 11th St, Clark to Oregon | Local | Poor | 4 |
| 12th St, Blakely Dr to Blakely Way | Local | Poor | 2 |
| 12th St, Jordan to Union | Local | Poor | 8 |
| 12th St, Union to Court | Local | Poor | 1 |
| 12th St, Jefferson to Madison | Local | Poor | 2 |
| 13th Pl, View Ct to Dry Hollow | Local | Poor | 1 |
| 13th St, View Ct to Dry Hollow | Local | Poor | 1 |
| 13th St, Kelly to Thompson | Local | Poor | 15 |
| 14th St, Jordan to Mt Hood | Local | Poor | 1 |
| 14th St, "G" to Dry Hollow | Local | Poor | 6 |
| 14th St, Dry Hollow to Thompson | Local | Poor | 6 |
| 15th Pl, Terrace Dr west | Local | Very Poor | 1 |
| 15th St, west of Mt Hood to Kelly | Local | Poor/Very Poor | 10 |
| 15th St, "I" to Quinton | Local | Poor | 6 |
| 16th Ct, west of Nevada to east of Nevada | Local | Poor | 2 |
| 16th Pl, Monroe to Kelly | Local | Poor | 1 |
| 16th St, Mt Hood to Dead End | Local | Poor | 8 |
| 16th St, Oregon to Thompson | Local | Poor | 6 |
| 17th Pl, west of Fairview to Fairview | Local | Poor | 1 |
| 17th St, Mt Hood to Bridge | Local | Poor | 1 |
| 17th St, 16th Pl to Riverveiw | Local | Poor | 3 |
| 17th St, Montana to Nevada | Local | Poor | 2 |
| 18th St, 20th to 19th | Local | Poor | 4 |
| 18th St, 16th Pl to dead end | Local | Poor | 4 |
| 19th St, Fairview to Dry Hollow | Local | Poor | 5 |
| 20th St, W Scenic Dr to dead end | Local | Poor | 2 |
| 20th St, 18th to Fairview | Local | Poor | 2 |
| 20th St, west of 19th to 19th | Local | Poor | 1 |
| 21st Pl, 21st St to dead end | Local | Poor | 1 |
| 21st Pl, 20th St to Fairview | Local | Poor | 2 |

| Project Name | Street Classification | 2013 Pavement Condition Rating | # of Blocks |
|---|-----------------------|--------------------------------|-------------|
| 21st St, Radio Way to Sorosis St | Local | Poor | 2 |
| 21st St, Dead end to Lewis | Local | Poor | 2 |
| 21st St, View Ct to Claudia Lane | Local | Poor | 1 |
| 22nd St, W of Garrison to Garrison | Local | Poor | 1 |
| 23rd St, Wright to Mt Hood | Local | Poor | 2 |
| Ash St, 7th to 6th | Local | Poor | 1 |
| Blakeley Dr, 12th to 10th | Local | Poor | 2 |
| Blakeley Way, 12th to 10th | Local | Poor | 2 |
| Brentwood Dr, Col Dr to Summit | Local | Poor | 5 |
| Bridge St, 10th to 9th | Local | Very Poor | 1 |
| Chenowith St, Cherry Hts to 6th | Local | Poor | 2 |
| Clark St, 10th to 9th | Local | Poor | 1 |
| Court St, 14th to 12th | Local | Poor | 2 |
| "F" St, 14th to 7th | Local | Poor | 7 |
| Fairview, 20th to dead end | Local | Poor | 1 |
| Federal St, 14th to 8th | Local | Poor/Very Poor | 6 |
| "G" St, 16th Pl to 12th | Local | Poor | 5 |
| Garrison St, south of 22nd to Scenic Dr | Local | Poor | 3 |
| Garrison St, 16th to 14th | Local | Poor | 2 |
| Garrison St, 11th to 8th | Local | Poor | 3 |
| "H" St, 17th to 9th | Local | Poor | 8 |
| Harris St, 13th St to 12th | Local | Poor | 1 |
| Harris St, 9th to 8th | Local | Very Poor | 1 |
| "I" St, 17th to Riverview | Local | Poor | 1 |
| "I" St, 12th to 9th | Local | Poor | 3 |
| Jefferson St, 13th to 11th | Local | Poor | 2 |
| Jordan St, south of 23rd to 23rd | Local | Poor | 1 |
| Jordan St, 14th to 9th | Local | Poor | 5 |
| Laughlin St, 14th to 8th | Local | Poor | 6 |
| Lewis St, south of 21st to 19th | Local | Poor | 3 |
| Lewis St, 14th to 9th | Local | Poor | 5 |
| Liberty St, 10th to 9th | Local | Poor | 1 |
| Liberty Way, Scenic Dr to 16th St | Local | Poor | 4 |
| Lincoln St, 11th to 9th | Local | Poor | 2 |
| Lincoln St, 4th to 3rd | Local | Poor | 1 |
| Lorenzen St, south of 10th to 10th | Local | Poor | 1 |
| Madison St, 15th to 13th | Local | Poor | 2 |
| Madison St, 12th to 11th | Local | Poor | 1 |
| Minnesota St, dead end to 17th | Local | Poor | 3 |
| Monroe St, 3rd to 2nd | Local | Poor | 1 |
| Montana St, Dry Hollow to 14th | Local | Poor | 5 |
| Myrtle St, 7th to 6th | Local | Poor | 1 |

| Project Name | Street Classification | 2013 Pavement Condition Rating | # of Blocks |
|--|-----------------------|--------------------------------|-------------|
| Nevada St, 19th to 13th | Local | Poor | 4 |
| Oregon St, 14th to 13th | Local | Poor | 1 |
| Oregon St, 12th to 9th | Local | Poor/Very Poor | 3 |
| Pentland St, 16th to 12th | Local | Poor/Very Poor | 4 |
| Pentland St, 11th to north of 6th | Local | Poor | 6 |
| Pentland St, 3rd to 2nd | Local | Poor | 1 |
| Pamona St, 10th to 7th | Local | Poor | 3 |
| Quinton St, dead end to 16th | Local | Poor | 2 |
| Quinton St, 12th to 10th | Local | Poor | 2 |
| Radio Way, 20th to 23rd | Local | Poor | 2 |
| Riverview St, 17th to 13th | Local | Poor | 4 |
| Roberts St, Quinton to 10th | Local | Poor | 4 |
| Royal Crest Dr, Wasco to Summit Ridge Dr | Local | Poor | 5 |
| Shearer St, 13th to 12th | Local | Poor | 1 |
| Sherman Dr, south of Royal Crest to Royal Crest | Local | Poor | 3 |
| Short St, 14th to 13th | Local | Poor | 1 |
| Sorosis St, 23rd to 21st | Local | Poor | 2 |
| Summit Ridge Dr, south of Brentwood to Col View Dr | Local | Poor | 4 |
| Terminal Ave, end to 2nd St | Local | Poor/Very Poor | 2 |
| Tie Plant Rd, | Local | Poor | 3 |
| View Ct, 21st to 19th | Local | Poor | 2 |
| View Ct, 14th to 12th | Local | Poor | 3 |
| Wasco Dr, south of Royal Crest to Col View Cr | Local | Poor | 4 |
| Washington St, 8th Pl to 7th Pl | Local | Poor | 1 |
| Wright Dr, Wright St S to Wright St N | Local | Poor | 2 |
| Wright St, Wright Dr S 23rd | Local | Poor | 2 |
| Wright St, 11th to 9th | Local | Poor | 2 |
| Total | | | 315 |

Notes:

Did not include Local streets from Thompson St east to Hwy 197 - generally substandard streets eligible for LIDs

Did not include gravel streets



CITY of THE DALLES

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AGENDA STAFF REPORT CITY OF THE DALLES

| MEETING DATE | AGENDA LOCATION | AGENDA REPORT # |
|---------------|-----------------|-----------------|
| June 24, 2013 | | |

TO: Mayor and City Council

FROM: Nolan K. Young, City Manager *NKY*

DATE: June 21, 2013

ISSUE: Supplemental Information regarding Street Funding Challenges

BACKGROUND: Since the last City Council meeting the City and County Administration have been considering a single ballot measure to help resolve both of our road and street operation and maintenance funding challenges. Attached is a copy of a preliminary concept in which a road district would be formed for funding purposes, to allow the City and County to meet their respective needs as well as enhancing and building upon current levels of cooperation that exist in the maintenance and operations of the street systems.

After hearing testimony on the proposed gas tax increase at the June 24 meeting, if the Council is interested in further investigating this proposal, we would propose postponing any action on the gas tax and calling for a second public hearing on July 8 to discuss the road/street taxing district concept. We would have until July 22 to make a decision, unless the Council wishes to call for an additional meeting sometime in August to discuss the final details. Any tax measure would need to be submitted to the County Clerk by September 5.

WASCO COUNTY/CITY OF THE DALLES ROAD/STREET TAXING DISTRICT

Challenge The City of The Dalles and Wasco County are both experiencing a funding crisis for the continued maintenance and operation of streets and roads over which they have jurisdiction. The funding crisis is slightly different for each agency, but does require significant additional revenue to solve, as any further spending reductions would result in lower levels of service, and continued street/road deterioration.

In the paragraphs below we will briefly explain the crisis for each agency.

1. **Wasco County**: Since 2007, Wasco County has not been adequately funded for operations and maintenance of their 700 miles of public roads. Wasco County has worked very hard to keep up with much of the necessary road maintenance and as a result, their overall road system is currently still in fairly good shape. However, the condition of their paved roads has dropped significantly: The overall Pavement Condition Index (PCI) was 85 and that number is now down to 80 and continues to drop. The revenue forecast continues to worsen as the federal government has now eliminated the "Safety Net" timber payments the county receives. Just a few years ago, the County received close to \$2 million dollars in timber payments and these funds represented almost 60% of the roads department's budget. After making several difficult spending cuts, the County still finds itself \$1.25 million dollar short of being able to sufficiently maintain and preserve its valuable road system.

2. **City of The Dalles**: For several years the City of The Dalles has had a funding shortage. As a result, over the last ten years 60% of its streets have gone from "good" or "very good" rating to a "fair" or "poor" rating. Recent changes in state transportation funding, and additional revenue from the current 3 cent local gas tax has provided better funding levels, which if received ten years ago would have allowed the City to implement a preventative maintenance program that would have prevented the current challenge. This leaves the City with a huge backlog of street repair work that would require a bond issue of a minimum of \$6.1 million to correct. The bond would require approximately \$450,000 per year in debt retirement. In addition, the City has about 350 blocks of local streets needing repair. Of those, it is felt that they will only be able to address 60 to 100 of those blocks, in the proposed bonds. Additional annual revenue in the amount of \$300,000 would allow the City to catch up on the backlog in the next 10 to 13 years and to have an adequate maintenance program in the future.

Funding Solution: The City is considering an additional 3 cent gas tax, which would go before the voters during the November 2013 election. This would allow the City to address its backlog of arterial and collector streets, but still leaves them with fragile funding for local street maintenance, and a long term preventative maintenance program.

Wasco County is considering the formation of a road district tax base of \$1.25 million. There is concern about taking competing ballot measures to the voters, placing them in the potential position of having to decide between two measures. The solution may be to combine the City's and County's need for funds in a single tax district that would raise approximately \$2 million to

help solve the problem for both agencies. The tax district would contract with each agency to provide funds for operation and maintenance of their respective road/street systems

Under this concept Wasco County would form a street/road taxing district and the City and County would maintain their existing streets and roads departments and current funding sources. Through agreements negotiated prior to the election, the City and County would establish a distribution of the funds that would be contingent on the successful passing of the ballot measure. The City and County would agree to continue the practice of sharing certain resources (staff and equipment) to create more efficient operations of both systems.

Concern: There is also a general concern in the community, over high property taxes in Wasco County. There may also be competing property tax measures from other taxing districts.



CITY of THE DALLES

313 COURT STREET
THE DALLES, OREGON 97058

(541) 296-5481
FAX (541) 296-6906

AGENDA STAFF REPORT CITY OF THE DALLES

| MEETING DATE | AGENDA LOCATION | AGENDA REPORT # |
|---------------|--------------------------|-----------------|
| June 10, 2013 | Discussion Item 13, A | 13-039 |

TO: Mayor and City Council

FROM: Nolan K. Young, City Manager

DATE: May 22, 2013

ISSUE: Discussion Regarding Funding of Street Maintenance Program

City Council Goal: Goal 4A: Investigate funding options for street projects.

BACKGROUND: The City has varying degrees of responsibility for approximately 88.20 miles of streets within the City limits of the following types:

- Asphalt concrete – 70.38 mi
- Chip seal – 3.24 mi
- Gravel – 10.82 mi
- Unimproved (public roads) – 3.76 mi

In the proposed 2013-14 budget, the Street Fund's (Fund 5) new revenue is supported from four primary funding sources as follows: State Motor Vehicle Shared Revenues (52%), Local 3-cent Gas Tax (28%), Water Fund 3% Surcharge (9%), and the Wastewater Fund 3% Surcharge (9%).

On April 1, 2013 the City Council held a workshop on street maintenance funding issues. Members of the budget committee were invited, and many attended this meeting. At that workshop we discussed how limited resources, over the last decade or more, have created a backlog of maintenance needs.

Since 2002 60% of the City streets have deteriorated from a condition of very good or good to fair or poor. At the workshop we discussed the value of a preventative

maintenance program. However, the back log of streets in fair or poor condition prevents us from adequately implementing a preventative maintenance program without falling further behind on our regular maintenance needs.

Increase Maintenance Options: We have identified two options to address the deteriorated condition of city streets, both of which require additional funding. Attachment A is a list of potential future street funding sources.

1. *Increase annual maintenance as funds become available.* Under this approach we would adopt one or more of the potential funding sources from Attachment A and each year we would prioritize projects as funds allow.
2. *Issue Bonds.* This approach would involve selecting a funding source, and using that revenue stream to pay back bonds. Utilizing the upfront money provided by bonds would allow us to catch up on much of the deferred maintenance and allow us to use the current street revenue to implement a strong preventative maintenance program.

Staff recommends Option 2: Issue Bonds. We have identified the following funding source alternatives under this option and listed them in order of staff recommendation.

Alternative 1 (Staff recommends) Gas tax increase: The gas tax increase would be implemented January 2, 2014 (earliest allowed). Under this option the Council would place on the November 2013 ballot a 1, 2 or 3 cent gas tax for either a 10, 15 or 20 year term. Attachment B is a schedule for taking a gas tax to the voters.

Table 1 identifies the estimated amount of revenue each level of tax is estimated to raise and the estimated Bond amount for different terms of retirement.

| | Annual Revenue | 10 year Bond | 15 year Bond | 20 year Bond |
|--------------------------|----------------|--------------|--------------|--------------|
| Gas Tax Increase 1 cent | \$ 150,000 | \$ 1,200,000 | \$ 1,600,000 | \$ 2,000,000 |
| Gas Tax Increase 2 cents | 300,000 | 2,400,000 | 3,300,000 | 4,000,000 |
| Gas Tax Increase 3 cents | 450,000 | 3,600,000 | 5,000,000 | 6,100,000 |

If the bond amount is over \$3.6 million, we recommend doing the improvements over a five year period and issuing two different bonds. We are concerned about our capacity to do \$6 million worth of improvements in the three years in which bond money is generally required to be spent.

Alternative 2 Cell Phone Tax: Under this option the City would adopt a 7% cellphone tax that could raise about \$180,000 per year. This \$180,000 would allow us to obtain a \$2.5 million, 20 year bond. This small amount would only be able to address a portion of the current problem and would require that we concentrate mainly on primary arterial and collector streets. This could be combined with some other increase to address more needs.

Alternative 3 Electric PUD Franchise fee Increase: Under this option the franchise fee would be increased from 3% to 5%. Table 2 below shows the anticipated revenues and the amount of improvements that could be addressed over a 10, 15 or 20 year bond.

Table 2 Electric PUD Franchise Fee Increase

| | Annual Revenue | 10 year Bond | 15 year Bond | 20 year Bond |
|-------------------------------------|----------------|--------------|--------------|--------------|
| PUD Franchise Fee Increased to 4 % | 230,000 | 1,800,000 | 2,500,000 | 3,100,000 |
| PUD Franchise Fee Increased to 4.5% | 345,000 | 2,800,000 | 3,700,000 | 4,600,000 |
| PUD Franchise Fee Increased to 5 % | 460,000 | 3,700,000 | 5,100,000 | 6,200,000 |

Alternative 4 General Obligation Bond (Property Tax): The City could go to the voters at the November election with a \$3 to \$6 million bond for a 10, 15, or 20 year Table 3 shows the anticipated tax assessment per \$1000 of assessed value.

Table 3 Property Tax Increase

| Bond Amount | 10 year Bond | 15 year bond | 20 year Bond |
|-------------|--------------|--------------|--------------|
| 3,000,000 | 0.391 | 0.285 | 0.232 |
| 4,000,000 | 0.518 | 0.380 | 0.312 |
| 5,000,000 | 0.656 | 0.476 | 0.391 |
| 6,000,000 | 0.786 | 0.571 | 0.465 |

We recommend against a property tax approach because of the following reasons:

1. Property tax is the only source some tax districts have to handle Capital Improvement (i.e. Parks & Rec; Schools; College; Fire District). We have tried to not compete for those dollars.
2. Local property taxes are already high.
3. Property tax only charges property owners and no other users of the street system.

Bonded Capital Improvement Projects:

The Public Works Department has developed a preliminary list of proposed street construction projects for the supplemental funding that would be available under the recommended funding strategy of issuing bonds.

We have attached two lists. Attachment C identifies a list of projects. The projects are identified by project name, description, how we propose to perform the work, and cost estimates. The projects are not yet prioritized. If the gas tax increase is approved we will prioritize the list based on condition, traffic load, upgrades needed on underground utilities, and impact on traffic when combined with other projects

The second chart (Attachment D) lists the same projects in the same order identifying street classification, and the 2013 pavement condition rating, along with the cost estimate. Please note from the second chart that the majority of the streets are arterial, or collector streets, with few local streets.

We are still working on a third chart that identifies additional local streets in fair to poor repair category. We anticipate we should be able to do about 60 blocks on these local

streets with a \$6.1 million bond issue. The intent would be that we would work on the remaining list of streets as part of our preventative maintenance program that will be implemented if this funding strategy and approach to street maintenance is adopted by the Council. We will send this list to you prior to the meeting.

Staff Recommendation: Staff recommends that the City Council select a gas tax increase as the appropriate funding mechanism to address the City's street maintenance needs. Staff further recommends that the Council adopt the bond approach supported with a new 3 cent gas tax for either a 20 year (\$6.1 million in bonding improvements). This recommendation includes implementing a strong preventative maintenance program addressing the back log of local access streets, and staying ahead of future maintenance needs for the rest of the street system.

It should be noted that the proposed plan is only for those streets that are currently accepted by the City for maintenance. It does not include local access roads, or existing City streets that have not been brought up to City standards through a Local Improvement District (LID). The City's policy would remain that in order for these streets to be accepted for city maintenance they would need to be brought up to City standards, by the property owners through a LID.

COUNCIL ALTERNATIVES:

1. Staff recommends that the Council hold a discretionary public hearing at their June 24 meeting, to consider the implementation of a 20 year, 3 cent gas tax increase.
2. Look at different amounts and direct staff to pursue another funding source.
3. Take more than one funding source to a public hearing on June 24.

ATTACHMENT A

Potential Future Street Fund Assistance

1. Local 3 Cent Gas Tax: The City's local gas tax raises about \$450,000 for the Street Fund operations (about \$150,000 for each 1 cent of tax). The current rate of 3 cents/gallon was set in the mid-1980's and has not been changed. The Oregon 2009 Transportation Bill prevents the City from increasing its local gas tax rate until after January 2, 2014.
2. Cell Phone Tax: Several Cities have adopted or are considering a Telecom tax that expands the franchise fee charged to the historic telephone provider to new alternative methods, including cellular, wireless, cable and modems. We estimate a 7% cell phone tax could raise about \$180,000 per year.
3. Northern Wasco County PUD Fee: The fee is currently at 3%, where most cities tax the local utilities 5%. Many of utilities subject to a 5% tax are private whereas the PUD is a public utility. One-half of a percent raises approximately \$115,000. This would replace the natural gas funds in the General Fund. If we increase the PUD fee, we may also want to consider increasing the 3% we charge our water and sewer utilities; each one-half percent increase would raise an additional \$44,000 for street maintenance.
4. Dedicated funding for streetlights: Streetlight expenses are proposed to be \$90,953 in FY 2013-14. We could either:
 - a. Transfer funds from the General Fund. Some cities do fund streetlights from the General Fund. We would need either to replace that revenue or decrease General Fund programs.
 - b. Another option for streetlight funding is to operate the street lighting as a utility and add it on to the utility bill, as we have with storm water.
5. NW Natural Gas franchise fee: The General Fund includes \$87,000 per year from this source. If we choose to move the NW Natural Gas franchise fee from the General Fund we would need to replace that revenue stream or reduce General Fund programs.
6. New Chewowith Water PUD Franchise Fee only: The City has the authority to charge the PUD a franchise fee on revenue derived from services delivered over City annexed Right of Ways. We currently charge our water system a 3% fee. It would seem equitable to charge this PUD the same fee. This would raise approximately \$28,000 per year. The water PUD has been experiencing financial challenges.

GAS TAX Election Schedule

| | |
|--------------|---|
| 29-May-13 | List of projects and funding alternatives sent to City Council |
| 10-Jun-13 | Council Discussion of alternatives |
| 24-Jun-13 | Council determines if they wish to pursue a gas tax increase; amount and term |
| 22-Jul-13 | City Council adopt resolution calling for election |
| 28-Aug-13 | Publish notice of ballot title |
| 5-Sep-13 | File the measure with county clerk |
| 4-Nov-13 | Election |
| Nov/Dec 2013 | Notify all fuel providers |
| 2-Jan-14 | Gas Tax implemented |

Proposed Street Construction Projects for Supplemental Funding - 5/17/2013

| Project Name | Description | Perform In-House or Contract | Estimated Cost |
|---|--|---|--------------------|
| 2nd St, Taylor to Lincoln | Strip asphalt, CTB, 6" AC, no concrete X-walks | Full Contract | \$500,000 |
| 3rd St, Taylor to Lincoln+ side streets | Full depth profile/grade/pave full width, 10-yr fix | Contract profile, in-house grade/pave | \$200,000 |
| Court St, 5th to 10th | Profile/pave full width | Contract profile, in-house pave | \$90,000 |
| E 10th St, Union to Kelly | Profile/pave full width | Contract profile, in-house pave | \$115,000 |
| W 15th, Trevitt to Liberty Way | Profile/CTB/pave | Contract profile/mill, in-house pave | \$65,000 |
| E 12th, Kelly to Dry Hollow | Profile/pave full width | Contract profile, in-house pave | \$245,000 |
| Cherry Hts, 6th to 10th | Profile/pave curb to curb | Contract profile, in-house pave | \$60,000 |
| Webber, 6th to 10th | Crack seal, armor chip seal | In-house crack seal, County chip seal | \$30,000 |
| 2nd St, Lincoln to Webber | Profile/pave full width | Contract profile, in-house pave | \$380,000 |
| W 10th St, Cherry Hts to Walnut | Crack seal, armor chip seal | In-house crack seal, County chip seal | \$55,000 |
| Brewery Gr, Roundie thru 9th St | Profile/pave full width | Contract profile, in-house pave | \$80,000 |
| 4th St, Jefferson to 3rd Pl | Crack seal, armor chip seal | In-house crack seal, County chip seal | \$75,000 |
| W Scenic Dr, 17th to CGCC | Armor chip seal | County chip seal | \$95,000 |
| E Scenic Dr, 16th Pl to CGCC | Full depth profile/grade/pave full width (CTB +\$60k) | Contract profile, in-house grade/pave | \$205,000 |
| Col View Hts, E Knoll to Summit Rdg | Hot chip armor seal | Contract seal? | \$50,000 |
| Washington, 3rd to 7th Place | Hot chip single layer | Contract seal? | \$25,000 |
| Trevitt, 3rd Pl to 17th (street cost only) | Full reconstruction including curb/SW, 6" AC, 10" base | Full Contract w/ sanitary/storm upgrade | \$1,800,000 |
| Union, 4th to 14th | Strip asphalt, CTB, 6" AC, curb/sw rehab | Full Contract | \$556,000 |
| Subtotal | | | \$4,626,000 |
| Other candidate projects yet to consider and update costs: | | | |
| W 2nd, Webber to Snipes | Armor chip seal | County chip seal | \$47,500 |
| W 6th, Snipes to City Limits | Armor chip seal | County chip seal | \$75,000 |
| Brentwood Dr, Col Dr to Summit | Profile/pave full width | Contract profile, in-house pave | \$82,000 |
| Harris St, 9th St to Guardrail | Profile/pave full width | Contract profile, in-house pave | \$43,000 |
| Federal St, 7th to 10th | Construct curbs/sw, profile/pave full width | Contract curb/sw, in-house zip/CTB/pave | \$152,000 |
| Old Dufur Rd, Thompson to Richmond | Crack seal, armor chip seal | In-house crack seal, County chip seal | \$40,000 |
| 10th St, Dry Hollow to Thompson | Crack seal, armor chip seal | In-house crack seal, County chip seal | \$37,000 |
| 10th St, Lewis to Dry Hollow | Zip, CTB, 4" AC | In-house | \$48,000 |
| 13th St, Jordan to Washington | | | |
| 7th St, Pamona to Walnut | | | |
| 4th St Grade | Reconstruct sw, profile/pave full width | Contract curb/sw/profile, in-house pave | \$72,200 |
| Subtotal | | | \$596,700 |
| Total | | | \$5,222,700 |

Key:

AC: asphalt concrete, also called hot mix asphalt

CTB: Cement Treated Base - milling dry cement into base and wetting rather than excavating full depth and placing base rock. CTB done on E 19th St in 2012.

Profile: grinding and removing old asphalt

Armor chip seal: double layer of chip seal; done on upper Kelly Ave in 2012.

Hot chip seal: new technology that utilizes oil-coated chips and is applied hot with polymer, reduces rock waste & dust; yet to be analyzed for applicability.

TBD: To Be Determined

Proposed Street Construction Projects for Supplemental Funding - 5/17/2013

| Project Name | Street Classification (in Condition Rating Report) | 2013 Pavement Condition Rating | Estimated Cost |
|---|---|--------------------------------|--------------------|
| 2nd St, Taylor to Lincoln | Arterial | Fair/Poor | \$500,000 |
| 3rd St, Taylor to Lincoln + side streets | Arterial | Poor | \$200,000 |
| Court St, 5th to 10th | Arterial | Poor | \$90,000 |
| E 10th St, Union to Kelly | Arterial | Fair/Poor | \$115,000 |
| W 15th, Trevitt to Liberty Way | Local (Fort Dalles Museum) | Very Poor | \$65,000 |
| E 12th, Kelly to Dry Hollow | Arterial | Poor | \$245,000 |
| Cherry Hts, 6th to 10th | Arterial | Fair | \$60,000 |
| Webber, 6th to 10th | Arterial | Poor | \$30,000 |
| 2nd St, Lincoln to Webber | Arterial | Fair/Poor | \$380,000 |
| W 10th St, Cherry Hts to Walnut | Arterial | Fair | \$55,000 |
| Brewery Gr, Roundie thru 9th St | Arterial | Fair | \$80,000 |
| 4th St, Jefferson to 3rd Pl | Arterial | Poor | \$75,000 |
| W Scenic Dr, 17th to CGCC | Collector | Fair/Poor | \$95,000 |
| E Scenic Dr, 16th Pl to CGCC | Collector | Poor/Very Poor | \$205,000 |
| Col View Dr, E Knoll to Summit Rdg | Collector | Fair | \$50,000 |
| Washington, 3rd to 7th Place | Arterial | Fair | \$25,000 |
| Trevitt, 3rd Pl to 17th (street cost only) | Collector | Poor/Very Poor | \$1,800,000 |
| Old Dufur Rd, Thompson to Richmond | Arterial | Fair | \$40,000 |
| 10th St, Dry Hollow to Thompson | Arterial | Fair | \$37,000 |
| 10th St, Lewis to Dry Hollow | Arterial | Poor | \$48,000 |
| Union, 4th to 14th | Arterial | Fair/Poor | \$556,000 |
| Subtotal | | | \$4,751,000 |
| Other candidate projects yet to consider and update costs: | | | |
| W 2nd, Webber to Snipes | Arterial | Fair/Poor | \$47,500 |
| W 6th, Snipes to City Limits | Arterial | Fair | \$75,000 |
| Brentwood Dr, Col Dr to Summit | Local | Poor | \$82,000 |
| Harris St, 9th St to Guardrail | Local | Poor/Very Poor | \$43,000 |
| Federal St, 7th to 10th | Local | Very Poor | \$152,000 |
| 13th St, Jordan to Washington | Collector | Poor | TBD |
| 7th St, Pamona to Walnut | Collector | Fair/Poor | TBD |
| 4th St Grade | Collector | Fair | \$72,200 |
| Subtotal | | | \$471,700 |
| Total | | | \$5,222,700 |

Key:

The Dalles Pavement Preservation Program

Presented by
Bill Barrier
Transportation Manager
City of The Dalles
Public Works Department

Issues

- What is pavement preservation?
- What is preventive maintenance?
- What is corrective maintenance?
- When should these actions be taken?
- Are these activities effective?
- If so, then why doesn't everyone have a pavement preservation program?

What is Pavement Preservation?

Pavement preservation is the sum of all activities undertaken to provide and maintain serviceable roadways, including preserving the investment in the national highway system, extending pavement life, enhancing pavement performance, ensuring cost-effectiveness, and reducing user delays.

- Consensus definition from AASHTO, Industry Representatives, and FHWA

Components of Pavement Preservation

- Includes all types of maintenance activities (i.e., routine, reactive, corrective, and preventive)
- Includes minor rehabilitation activities
- Does not include major rehabilitation or reconstruction

Types of Maintenance Activities

| Type | Planned? | Before Deterioration? | Extends Facility Life? |
|-------------------|-----------|-----------------------|------------------------|
| Routine | Yes | Not Necessarily | Sometimes |
| Reactive (Demand) | No | No | Probably Not |
| Corrective | Generally | No | Sometimes |
| Preventive | Yes | Yes | Yes |

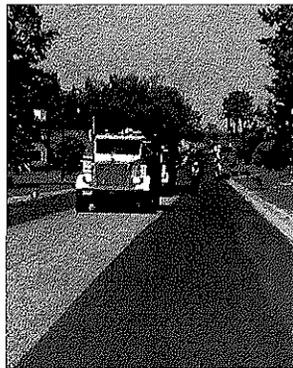
Preventive Maintenance

The planned strategy of cost effective treatments to an existing roadway system and its appurtenances that preserves the system, retards future deterioration, and maintains or improves the functional condition of the system (without increasing structural capacity).

- AASHTO's Standing Committee on Highways

Preventive Maintenance

- Planned
- Performed on good pavements
- Contributes to long-term performance
- Examples: Fog Seal, Chip Seal, Cape Seal, Thin HMA Overlay, Crack Seal



East 10th and Dry Hollow



Corrective Maintenance

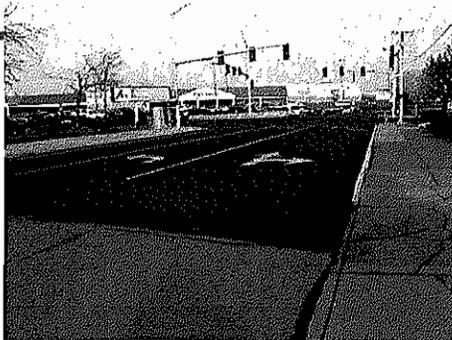
- Reactive
- Performed on failing pavements
- Does not contribute to long-term performance
- Examples: Patching, Pothole Repair



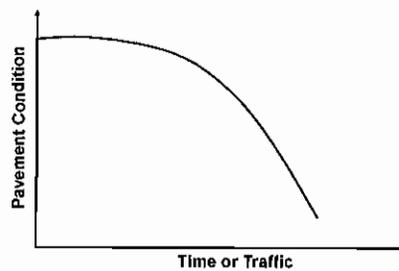
East 14th Street

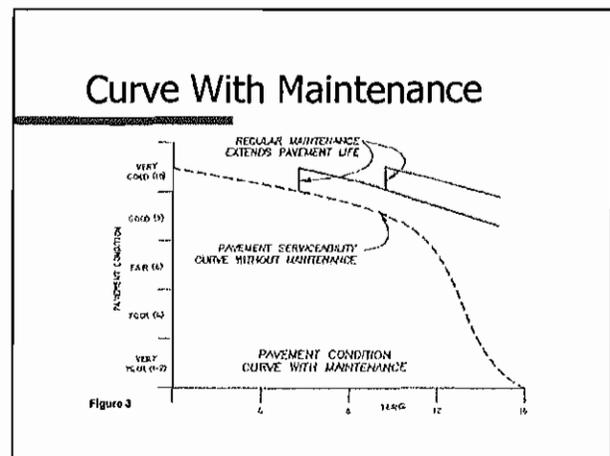
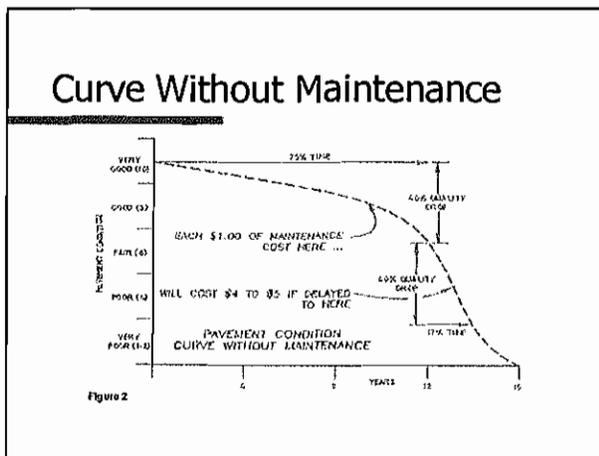
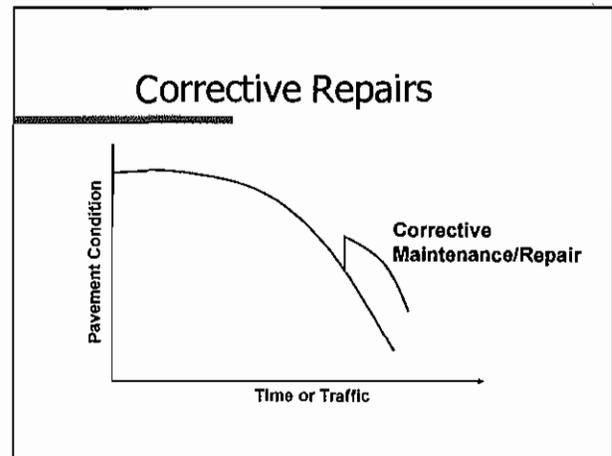
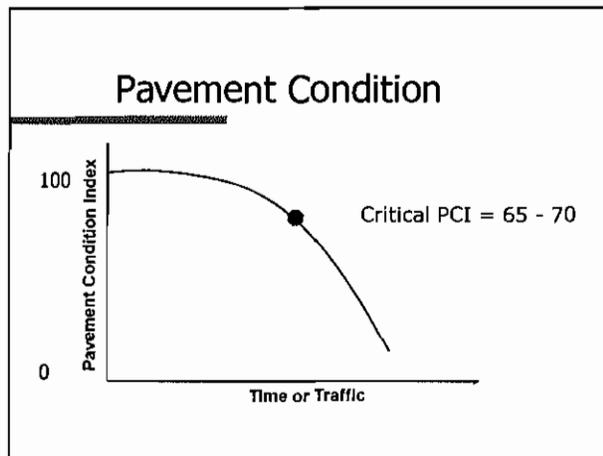


West 6th Street



Pavement Lifecycle





Numerical Rating System

| Numerical Ratings and Recommended Maintenance, Rehabilitation and Reconstruction | |
|--|---|
| Rating | Type of Maintenance, Rehabilitation and Reconstruction |
| 10 - Excellent | None |
| 9 - Very Good | Fog seal |
| 8 - Good | Seal coat or sand seal coat |
| 7 - Good | Type I, II or III slurry seal and routine crack seal |
| 6 - Fair | Type I, II or III slurry seal and routine crack seal and minor patching |
| 5 - Fair | Crack seal and non-structural overlay (less than 2" in thickness) with moderate patching |
| 4 - Poor | Crack seal and structural overlay (greater than 2" in thickness) with moderate patching |
| 3 - Poor | Significant patching, milling and overlay possibly with crack inhibiting fabric depending on structural condition of pavement |
| 2 - Very Poor | Total reconstruction or reconstruction with extensive base repair, possible recycling |
| 1 - Failed | Total reconstruction, possible recycling some material |

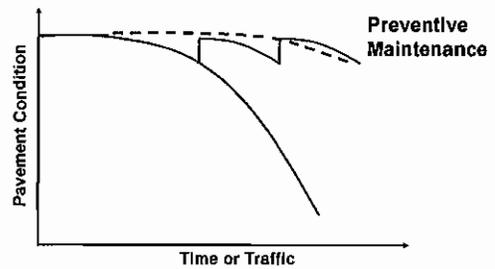
Pavement Condition Rating

| | 2002 Rating | % of Total | 2013 Rating | % of Total | % Change |
|---------------------|----------------|-------------|----------------|-------------|----------|
| Excellent/Very Good | 119,326 | 35% | 24,510 | 7% | -28% |
| Good | 135,142 | 40% | 27,839 | 8% | -32% |
| Fair | 54,087 | 16% | 123,804 | 36% | 20% |
| Poor | 23,705 | 7% | 138,786 | 46% | 39% |
| Very Poor/Failed | 8,035 | 2% | 9,291 | 3% | 0% |
| Total | 340,295 | 100% | 344,230 | 100% | |
| | 64.4 miles | | 65.2 miles | | |

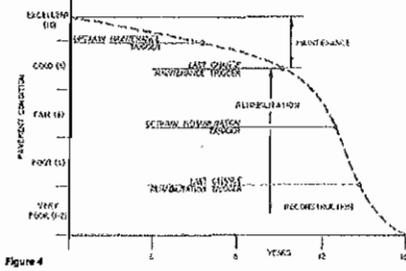
3rd Street – Core Area Inlay



Preventive Maintenance



Triggers



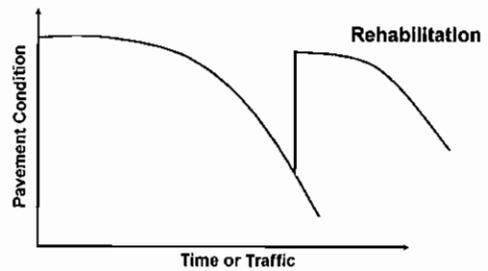
East 10th and Dry Hollow



East 16th Place Candidate



Rehabilitation



Third and Liberty Candidate



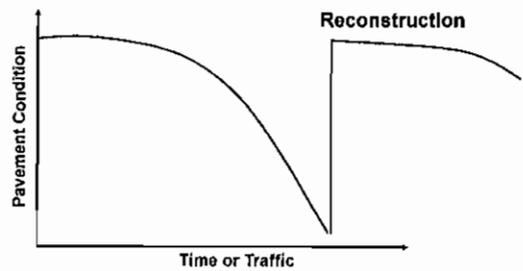
East 15th and G Street



E.15th Street Rehabilitation



Reconstruction



Third and Liberty Options?



West 11th – Trevitt to Union



Cost Comparison of Options

- Preventive maintenance: \$ 10,270
- Rehabilitation: \$ 45,570
- Reconstruction: \$ 574,000

Costs obtained from City of Bedford (Texas) on a per-lane mile basis

Public Perceptions

- Public averse to steering maintenance dollars toward pavements in good condition
- Agencies more likely to receive complaints about specific defects than overall network
- Challenge of balancing limited maintenance resources between preventive maintenance and rehab/recon
- Need to educate the public about new philosophy

Summary

- Backlog of deferred maintenance has resulted in more streets needing rehab/recon.
- Preventive Maintenance is more cost effective in the long run than relying on rehab/recon.
- There is a need to fund both Preventive Maintenance to maximize street life and to rehabilitate failed streets.

Questions?

Thank you!

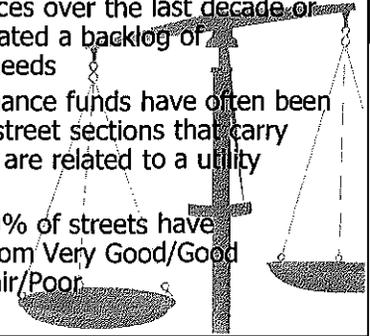
Street Maintenance Funding Issues

City Council Workshop
April 1, 2013



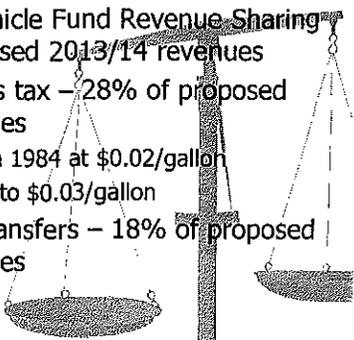
Funding Issues

- Limited resources over the last decade or more have created a backlog of maintenance needs
- Street maintenance funds have often been prioritized for street sections that carry more traffic or are related to a utility project
- Since 2002, 60% of streets have deteriorated from Very Good/Good condition to Fair/Poor



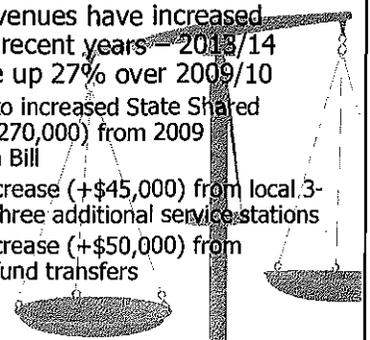
Current Funding Sources

- State Motor Vehicle Fund Revenue Sharing – 52% of proposed 2013/14 revenues
- Local 3-cent gas tax – 28% of proposed 2013/14 revenues
 - Implemented in 1984 at \$0.02/gallon
 - Raised in 1986 to \$0.03/gallon
- Water/Sewer transfers – 18% of proposed 2013/14 revenues

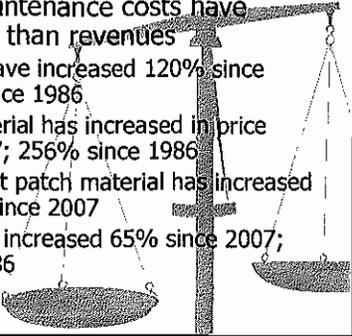


Funding Issues

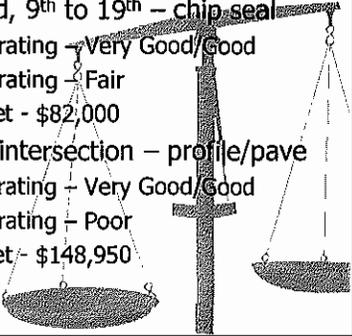
- Street Fund revenues have increased significantly in recent years – 2013/14 projected to be up 27% over 2009/10
 - Primarily due to increased State Shared Revenues (+\$270,000) from 2009 Transportation Bill
 - About 11% increase (+\$45,000) from local 3-cent gas tax, three additional service stations
 - About 20% increase (+\$50,000) from Water/Sewer fund transfers



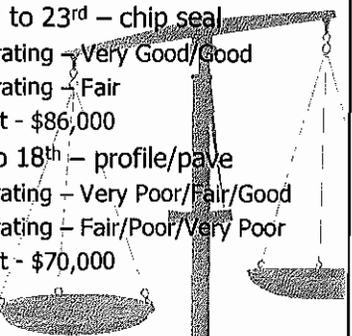
Funding Issues

- Some street maintenance costs have increased faster than revenues
 - Asphalt costs have increased 120% since 2007; 255% since 1986
 - Crack seal material has increased in price 32% since 2007; 256% since 1986
 - Cold mix asphalt patch material has increased in price 107% since 2007
 - Fuel costs have increased 65% since 2007; 276% since 1986
- 

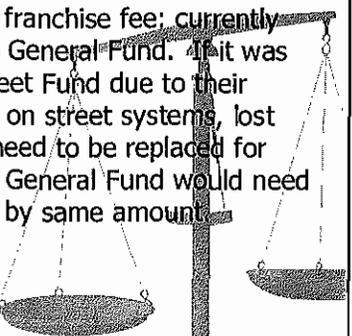
Planned 2013/14 Street Maintenance Projects

- Dry Hollow Road, 9th to 19th – chip seal
 - 2002 condition rating – Very Good/Good
 - 2013 condition rating – Fair
 - Proposed budget - \$82,000
 - 2nd & Webber, intersection – profile/pave
 - 2002 condition rating – Very Good/Good
 - 2013 condition rating – Poor
 - Proposed budget - \$148,950
- 

Planned 2013/14 Street Maintenance Projects

- Mt Hood St, 10th to 23rd – chip seal
 - 2002 condition rating – Very Good/Good
 - 2013 condition rating – Fair
 - Proposed budget - \$86,000
 - Bridge St, 14th to 18th – profile/pave
 - 2002 condition rating – Very Poor/Fair/Good
 - 2013 condition rating – Fair/Poor/Very Poor
 - Proposed budget - \$70,000
- 

Potential New Revenue Sources

- NW Natural Gas franchise fee: currently \$87,000 goes to General Fund. If it was dedicated to Street Fund due to their adverse impacts on street systems, lost revenue would need to be replaced for General Fund or General Fund would need to be decreased by same amount.
- 

Potential New Revenue Sources

- Dedicated funding for streetlights: street light expenses are proposed to be \$90,953 for 2013/14. We could either transfer from General Fund like some cities do, or operate street lighting as a utility and add it on utility bill like was done for storm water. If transferred from General Fund, would need to either replace lost revenue or decrease General Fund.

Potential New Revenue Sources

- Implement a Telecom Tax: several cities have adopted or are considering a Telecom Tax that could replace the revenues lost from the General Fund in either of the first two options listed above. We've estimated that a 7% Telecom Tax would raise about \$180,000/year.

Potential New Revenue Sources

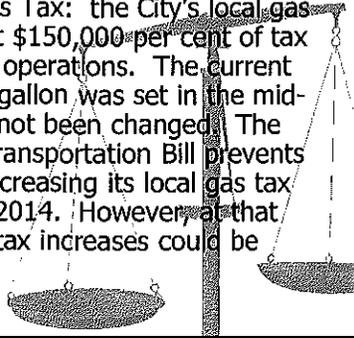
- NWC PUD franchise fee: the current PUD franchise fee is 3% where most cities tax local utilities 5%. Each ½% raises approximately \$115,000. This could replace the revenue lost by the General Fund if Natural Gas fees were dedicated to the Street Fund. If PUD fee is increased, we should consider raising the 3% that our Water/Sewer utilities pay; each ½% increase would raise an additional \$47,000. Recently adopted Water and Sewer rate schedules assumed 3% transfers to Street Fund.

Potential New Revenue Sources

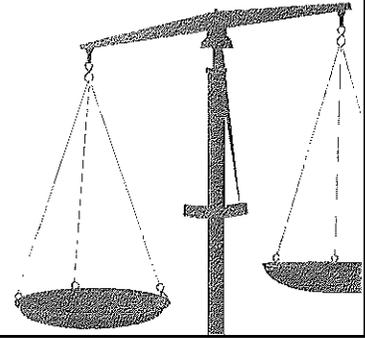
- Chenoweth Water PUD franchise fee: City could charge the Chenoweth Water PUD a franchise fee for services rendered over City rights-of-way. Under the same concept, the City Water Fund is charged 3%. A franchise fee of 3% would raise approximately \$28,000/year.

Potential New Revenue Sources

- **Local 3-cent Gas Tax:** the City's local gas tax raises about \$150,000 per cent of tax for Street Fund operations. The current rate of 3 cents/gallon was set in the mid-1980s and has not been changed. The Oregon 2009 Transportation Bill prevents the City from increasing its local gas tax rate until after 2014. However, at that time, local gas tax increases could be considered.



Questions/Discussion





AGENDA STAFF REPORT CITY OF THE DALLES

| MEETING DATE | AGENDA LOCATION | AGENDA REPORT # |
|--------------|----------------------|-----------------|
| July 8, 2013 | Action Item 12, A | 13-049 |

TO: Mayor and City Council

FROM: Nolan K. Young, City Manager *NKY*
Keith Mobley, Attorney for QLife

DATE: June 6, 2013

ISSUE: Broadband Strategic Plan

BACKGROUND: The City of The Dalles and Wasco County have been joined in the QualityLife Intergovernmental Agency since June 16, 2001. Among the powers granted to the Agency are those “. . . necessary or desirable to efficiently and effectively design, construct, own, operate and maintain a telecommunications network for the benefit of Wasco County and the Mid-Columbia Gorge Community.” (Sec. 1.3.3)

The terms of the intergovernmental agreement also require the Agency, which operates under the assumed business name of QLife Network, to obtain the written consent of the parties to the agreement when a change in the scope of work is proposed.

With support from the Oregon Economic and Community Development Department, a “Wasco County Telecommunications Plan for the Period 2002-2003” was developed through a public process and presented to Wasco County and the QLife Network board of directors in April of 2002.

In early 2010 an “Oregon Broadband Outreach and Strategic Planning Project” was announced by the Oregon Public Utility Commission in cooperation the Oregon Broadband Advisory Council. The funding source was the National Telecommunications and Information Administration. The Project plan called for the selection of 8 Oregon communities for assistance in “. . . creating strategic broadband plans for their citizens in order to help increase broadband adoption and utilization across the state.”

Our application was one of four selected for the first round, with Sandy, Eugene, and the Warm Springs Indian Reservation. After an extensive public process that included participation by all of the providers of telecommunications services in Wasco County, the attached plan was completed and presented to the QLife Network board of directors at its meeting on May 23, 2013.

REQUESTED ACTION: The board adopted a motion endorsing the “Wasco County and QLife Broadband Strategic Plan” and recommending its adoption by the Wasco County Board of Commissioners and the Council of the City of The Dalles.

If both parties to the agreement adopt the Plan as presented, the QLife Network board of directors asked Keith Mobley to seek the participation of persons and entities that contributed to the development of the Plan, in order to begin work on selected initiatives included in the Plan.

BUDGET IMPLICATION: None, any activity will be funded with QualityLife Intergovernmental Agency funds.

COUNCIL ALTERNATIVES:

1. Staff recommendation: Adopt the Wasco County and QLife Strategic Broadband Plan.
2. Request amendment to the plan and refer back to the QLife Board for consideration.

Wasco County and Q/Life Broadband Strategic Plan

Q/Life

5/1/2013

This planning effort was supported by the State Broadband Data and Development Program and has been funded through an American Recovery and Reinvestment Act (ARRA) grant administered through the National Telecommunications and Information Administration, the Oregon Public Utility Commission and the Oregon Business Development Department.

Wasco County and Q-Life Network Broadband Strategic Plan

Acknowledgements

Wasco County and Q-Life Network wish to thank the community and business members who participated in this planning effort.

Community Development Sector

Keith Mobley
 Dave Karlson
 Bill Fashing
 Chris Tamarin
 Paul Ferguson
 Dennis Ross
 Scott Mckay
 Linda Grilswold
 Scott Anderson
 Maggie Pando
 Nolan Young

Organization

QLife Network
 Google
 MCCOG
 Oregon Business Development Department
 Wasco County
 City of Maupin Resident
 Mid-Columbia Senior Center
 YouthThink
 Radcomp Technologies
 The Dalles/Wasco County Library
 City of The Dalles

Economic Development Sector

Amanda Hoey
 Joan Silver
 Carrie Pipinich
 Andrea Klaas

 Mary Kramer
 Mike Canon

 Frank J. Kay III
 Jeff Davis
 Mary Merrill

 Donella Polehn
 Keith Mobley

 Jeff Renard

Mid-Columbia Economic Development District (MCEDD)
 Wasco County Economic Development Commission
 MCEDD
 Port of The Dalles
 Columbia Gorge Community College, CET and Resident, City of Dufur
 Klickitat County Economic Development
 City of Maupin, Wasco County Economic Development Commission
 Wasco Electric Cooperative
 Columbia Gorge Community College, SBDC
 Polehn Farms Inc, Wasco County Economic Development Commission
 QLife Network
 Wasco County Economic Development Commission,
 The Dalles Chamber of Commerce

Education & Healthcare Sector

| | |
|--------------------|---|
| Brian Ahler | Qlife, Mid-Columbia Medical Center |
| Laurie Miller | Columbia River Women's Clinic, Gorge Health Connect |
| C.S. Little | Dufur School District |
| Gary Peterson | Columbia Gorge ESD |
| Teri Thalhofer | North Central Public Health District (NCPHD) |
| Kathi Hall | NCPHD |
| Dan Spatz | Columbia Gorge Community College (CGCC) |
| Adam Gletl | CGCC |
| Coco Yackley | Columbia Gorge Coordinated Care Organization |
| Brian Goodwin | North Wasco County School District 21 |
| Kelly Keith | Mid-Columbia Center for Living |
| Molly Rogers | Wasco County Youth Services |
| Timothy McGlothlin | North Wasco County School District 21 |
| Cody Harman | CGESD |
| Keith Mobley | QLife |
| Tom Cunningham | Mid-Columbia Medical Center |

Resources & Utilization Sector

| | |
|----------------------|--------------------------------|
| Scott Hege | Wasco County |
| Michael Weldman | LS Networks |
| Lynette Ranney Black | Oregon State Extension Service |
| Eugene Walters | Juniper Flat RFPD |
| Seth Reiter | Johnson NETwork |
| Clinton Johnson | Johnson NETwork |
| Wilfred Pinfeld | Intel Corp |
| Dale Clark | PGE |
| Brian Adams | SawNet |
| Dan Bubb | Gorge Networks |
| Dan Wallace | Charter Communication |
| Eric Hastings | Charter Communication |
| John Amery | Aristo Networks/QLife |
| Mary Roehr | Charter Communication |
| Marian Jackson | Charter Communication |
| Keith Mobley | QLife Network |
| Karen Stewart | CenturyLink |
| Todd Reeves | Mosier WiNet |
| Herb Watts | Oregon Telco |

Wasco County & the Q-Life Network Broadband Adoption and Utilization Strategic Plan

Broadband Vision Statement:

We will leverage current technology planning efforts in our region, the region's broadband infrastructure and our investment in middle-mile fiber plant to enhance our region's economic vitality and quality of life.

Broadband Goals:

- 1. Increase the number of new businesses entering the county and existing business retention and expansion by creating a technically fluent workforce.**
- 2. Through digital literacy campaigns, increase adoption and utilization rates of broadband.**
- 3. Improve health and education outcomes by leveraging tele-health and on-line learning modalities throughout the county.**
- 4. Increase availability of high quality broadband service in ALL Wasco County communities by driving demand through education.**

Overview

Broadband is transforming and expanding our ability to communicate, participate, create, educate, inform and compete. Because of this transformation, access to adequate broadband resources and the ability to fully utilize broadband-associated tools and technologies are determining factors in the economic and civic vitality and of our communities.

Today, high-speed broadband is transforming the landscape of America more rapidly and more pervasively than earlier infrastructure networks. Like railroads and highways, broadband

accelerates the velocity of commerce, reducing the costs of distance. Like electricity, it creates a platform for America's creativity to lead in developing better ways to solve old problems. Like telephony and broadcasting, it expands our ability to communicate, inform and entertain. Broadband is the great infrastructure challenge of the early 21st century. But as with electricity and telephony, ubiquitous connections are means, not ends. It is what those connections enable that matters. Yet there are still critical problems that slow the progress of availability, adoption and utilization of broadband.

According to research cited in the National Broadband Plan published in 2010, nearly 100 million Americans do not have broadband today. Fourteen million Americans do not have access to broadband infrastructure that can support today's and tomorrow's applications. More than 10 million school-age children do not have home access to this primary research tool used by most students for homework. Jobs increasingly require Internet skills; the share of Americans using high-speed Internet at work grew by 50% between 2003 and 2007, and the number of jobs in information and communications technology is growing 50% faster than in other sectors. Yet millions of Americans lack the skills necessary to use the Internet. Electronic health records could alone save more than \$500 billion over 15 years. Much of the electric grid is not connected to broadband, even though a Smart Grid could prevent 360 million metric tons of carbon emissions per year by 2030, equivalent to taking 65 million of today's cars off the road. Online courses can dramatically reduce the time required to learn a subject while greatly increasing course completion rates, yet only 16% of public community colleges—which have seen a surge in enrollment—have high-speed connections comparable to our research universities.

The Strategic Planning Process

In 2012, the Oregon Broadband Advisory Committee (OBAC) and the Oregon Business Development Department selected Wasco County and the Q-Life Network to participate in a broadband strategic planning process focused on identifying goals and strategies to increase broadband adoption and utilization in the community. Wasco County and the Q-Life Network is one of eight Oregon communities participating in the broadband planning process funded under a grant from the National Telecommunications and Information Agency's Broadband Telecommunications Opportunity Program (BTOP)¹. The county formed four "community sector" groups (Community Development, Education and Healthcare, Economic Development and Resource Utilization) which have met in planning forums to develop the goals and strategies of this broadband adoption plan. This document presents the outcome of this process.

The County and Q-Life worked with the OBDD to develop its strategic planning process, using a planning template developed by OBDD for all eight participating cities. The planning template encourages wide participation from the community in a series of face to face facilitated planning workshops. In January 2013 the County and Q-Life brought individuals from key sectors in the community together in the first series of workshops to explore the following questions:

¹ The grant is administered by the Oregon Business Development Department

- *Why are broadband inclusion, adoption and utilization important in our communities? What's at stake for the economic, social, educational and healthcare future of our communities?*
- *What parts of our communities are most affected by lack of broadband access, awareness, adoption, and utilization capabilities?*
- *What barriers prevent broadband access, awareness, adoption and utilization?*
- *What community assets and opportunities can be leveraged to overcome barriers?*

A draft report was distributed to all workshop participants in February, and a follow-up plenary planning session was held in March. In the Plenary session, participants reviewed the draft strategies and goals, and focused on identifying and prioritizing key actions. The planning participants identified **shorter term strategies** that would allow the community to achieve **early impacts** in broadband awareness, access and adoption, as well as **longer term strategies** that will improve broadband adoption, support economic development and education and health development goals, enhance the region's businesses, and eliminate digital divide and equity issues.

Findings

Discussion of the above questions by community members led to the following findings.

Inequities in broadband access, adoption and utilization

- Broadband and technology fluency are essential to a skilled and productive workforce, a connected citizenry, and equitable opportunity for all.
- Income, age, and lack of availability of broadband service contribute to inequities in broadband adoption and utilization.
- Technology can be an asset, but too often is a barrier for underserved communities that are without broadband access or economically disadvantaged populations who are without devices or the coaching they need to use technology.
- Closing these divides is essential to developing connected and productive citizens and a skilled, digitally-fluent workforce.
- There is a lack of awareness among many in the community of the impact or relevance of broadband in their lives. These may be people with the access and means to adopt broadband but are not motivated now to do so.

Opportunities for Innovation and Improved Healthcare and Education Outcomes

- New health care and education innovations and opportunities made possible by broadband are emerging in the county. These innovations can improve healthcare and education outcomes and reduce cost.
- All emerging healthcare opportunities are dependent on consumers' awareness and adoption of broadband.
- Lack of technology fluency will inhibit the entry of in-home healthcare programs and to patient access to health information.
- The connection between health and education is an important issue for planners now. New thinking about the healthcare/education nexus is putting the needs of the individual ahead of systems concerns. There is a new understanding of the child health requirements to support learning. As a result, education/healthcare silos (and silos

between school districts and between Pre-K-12 and higher education) are beginning to dismantle.

Role of Broadband in Economic Development and Community Vitality

- Broadband is an essential for 21st century economic development, including small businesses, the developing technology sector, the agriculture sector, teleworkers and the overall vitality of rural communities.
- Utilization skills among small businesses need to increase in order to have access to global markets.
- In order to keep and attract young people to our rural communities we must be able to offer technology-based economic opportunity.
- High capacity broadband service like that envisioned through the publicly funded Q-Life network can enable Wasco County to remain competitive. The fiber optic network established by Q-Life provides a strong foundation for the expansion of broadband access in our community. It has already made it possible to attract major new employers, such as Google.
- There is more to do to meet the goal of bringing robust, high capacity bandwidth to the region. Broadband service is lacking in most areas outside The Dalles, frustrating opportunities to make telework, health care, social services, and extended education opportunities more immediately and readily available.
- It may be possible to leverage existing fiber and other infrastructure resources, including Q-Life, to eliminate the broadband service inequities that plague the rural areas of the County.

Discussion of the Four Broadband Strategic Goals

The planning process produced four strategic goals that address economic development, community development, education and health, and utilization of resources in the community. The goals and associated strategies are discussed below and arrayed on the summary "Conceptual Broadband Strategic Plan" attachment.

Goal One: Increase the number of new businesses entering the county and existing business retention and expansion by creating a technically fluent workforce.

Adequate, high capacity broadband is essential to businesses large and small, to teleworkers and to the county's important agricultural sector. High quality, high capacity broadband service will enable small businesses to flourish, and attract skilled workers and entrepreneurs to the County. Quality of life is why people choose to live in Wasco County communities but many are prevented from building home businesses or telecommuting due to a perceived lack of broadband service. Service is improving in the region, but broadband needs to be ubiquitously available to optimize economic development. Wireless broadband sufficient for agriculture applications is unavailable. Agricultural uses require a "big/fast mobile pipe" that is "a threshold above the norm."

The region has broadband, cheap power and relatively cheap land. Google took note, and established a large presence in The Dalles. The County invested in the establishment of Q-Life, a fiber optic, high-capacity middle-mile network. Planning participants also want to incentivize Intel, Microsoft, Nike and other large employers to encourage employees would be looking for the quality of life and natural beauty the area has to offer to telecommute from the area. The area is also "home" to many "week-enders" and Portlanders with vacation homes. More of these part-time residents would spend more time (and money) here if broadband service were affordable and available to them.

Our Priority Action Agenda:

1. **Provider collaboration on increasing adoption rates by establishing access 'hubs'.** "Hubs" are single locations that have high speed broadband connections and that are open to the public. By establishing additional neighborhood access and business hubs, we can extend broadband to rural communities. A "one hub per year" strategy was proposed to create hubs in Maupin, Dufur, and Tygh Valley. It is important to involve broadband providers in the effort to increase adoption by working with them to establish the neighborhood hubs, along with education efforts on broadband benefits and skills.
2. **Recruit and support local entrepreneurs in technology fields to start or expand businesses in the county.** Develop partnerships to increase business awareness of broadband-linked opportunities, to assist with adoption and utilization skills, and to make technology more accessible to small business.
3. **Expand bi-state collaboration within Mid-Columbia Region on broadband training, adoption and rural access initiatives.** The most likely partnerships are between the City of The Dalles and Klickitat County because they are already partnering on major assets such as a regional airport.
4. **Assist fruit growers and other local businesses to adopt broadband-enabled strategies to compete in global markets.** Pilot projects can demonstrate the effectiveness of broadband partnerships. A suggested pilot between Q-Life and Polehn Farms could demonstrate the potential of global marketing.

Our Implementation Strategy:

- Explore partnership opportunities between Wasco, Hood River, and Sherman counties, as well as with organizations like the Gorge Technology Alliance, the Small Business Development Center at Columbia Gorge Community College, our agricultural groups, and the County Library System.
- Create a bi-state Regional Center for Innovation. Work with the states, the Federal Communications Commission and other federal, state and local agencies and companies to participate in better linking our educational institutions, workforce development entities, and local businesses to support development of a technically fluent workforce.
- Work with the Oregon State University Extension, business organizations, WyEast Resource Conservation Development Corp. and BPA on assisting fruit growers and others. There are already efforts to use high technology to report water content in soil and other applications, and there may be natural partnerships to be developed.

Long Term Strategies:

- Market the business and quality-of-life benefits of The Dalles and Wasco County as a “connected community” to large employers with a telecommuting workforce. Get CEO’s to talk to CEO’s to start the business to business conversation.

Goal Two: Through digital literacy campaigns, increase adoption and utilization rates of broadband.

There is a very real broadband opportunity divide between The Dalles and adjacent rural areas. Some rural areas have substandard service while others have limited broadband access. Broadband affordability is also a problem, in both rural and more urban Wasco County communities. Affordability and availability are significant issues, especially for economically disadvantaged individuals and families. But participants in this broadband planning process recognized that low adoption rates also indicate lack of public awareness of the benefits of broadband and its growing necessity. Barriers to adoption may include fear of technology, lack of familiarity with computers, concern about security and privacy, non-English speaking, and doubt about the relevance of the Internet. Even those who own computers may lack the skills to use the Internet to find a job, to pay bills, or find a product or service at a low price.

Our Priority Action Agenda:

1. **Develop and promote a policy for access to Broadband in the County. Establish a “broadband access for all” principle, which will guide policy and determine actions that might provide both affordability programs and initiatives to incentivize or subsidize development of rural broadband infrastructure.**
2. **Deploy an effective public awareness and outreach campaign that articulates broadband benefits and value proposition. This outreach can draw on many sources for content, including the library system, community college, university extension and the Small Business Development Center (SBDC).**
- **Establish partnerships to provide digital literacy training. Develop a community-based Technology Users Group with the mission of helping others, “neighbor-to-neighbor”, with broadband/ technology utilization skills. Develop agreements with service providers, device retailers, computer support service providers, coffee shops and others to distribute the outreach materials. These materials should include specific information (how to set a password, how to check e-mail, how to use a browser, etc.). Broadband literacy is cultivated by exposure to devices and fast networks. Develop skills centers within libraries, coffee shops, computer labs in schools, “after school” programs, and at other locations to offer access to devices and support for use of broadband technologies.**

Our Implementation Strategy:

- Spread the philosophy to all organizations that interface with communities. Meals on wheels, senior centers, counseling centers, the Library, Churches and other service organizations can be recruited to assist with creating awareness of digital literacy and its benefits.

- Create a public awareness campaign using multi-media outlets (pamphlets, videos, on-line messages, social media, etc.) that publicizes where broadband access is available, what it costs, and what it can do to improve job skills, education and quality of life.
- Find funding to develop a mobile broadband awareness program (perhaps a "broadband van") that can visit communities, the homebound, schools and other community. "There is no substitute for one-on-one coaching" to enable the uninitiated to navigate broadband-enabled technologies. "Neighbor to neighbor" coaching is the best means of supporting broadband utilization skills.
- Involve community institutions to teach digital literacy and broadband skills. "Create an army" of mentors, involve families to raise digital skill sets for all generations in the family. Coaching can occur via teens to seniors, business-owner-to-business-owner, middle-school students to parents, and through after-school programs, library efforts or other formally or informally sponsored programs.

Goal Three: Improve health and education outcomes by leveraging tele-health and on-line learning modalities throughout the county.

Broadband is ushering in new modalities of education and health services. Health care services, including monitoring of vital signs, medication management, and face-to-face consultations between patients and doctors will be possible over a broadband link. Seniors won't have to travel to a doctor's office to be monitored. Consultations with major medical centers in other cities will be possible without leaving the local community.

On the education front, students will be able to take courses from educational institutions anywhere in the world over broadband. Virtual schools are developing and educating students today in Oregon, and throughout the country. Distance education is a significant part of the state's "40-40-20" educational goals, and Oregon State University wants to provide on-line courses in partnership with Columbia Gorge Community College.

Our Priority Action Agenda:

1. **Establish a policy to get broadband access to every address to support healthcare and education service delivery.** Work with the State, health care providers, insurers and others to actively promote service delivery via broadband.
2. **Establish a public/private consortium for collaboration and sharing best practices across the education and healthcare sectors.** Involve health care providers, educational institutions and state agencies to work together to address the policy/protocol issues holding back service delivery over broadband. These issues include federal privacy standards, lack of affordable broadband services and user devices, and lack of organizational skills and programs to offer on-line services.
3. **Initiate a pilot program to test assumptions and develop best practices for using broadband to improve healthcare and/or educational outcomes.** Establish a cross-sector pilot project to demonstrate the health and education benefits of broadband adoption and to advance demand for these services in the County.

Our Implementation Strategy:

- Involve Gorge Health Connect, Oregon Health Network, MCMC/MCGC, the County, Columbla Gorge Educational Service District, CGCC, Head Start and other service organizations and educational institutions in framing a regional access policy to insure service is available and affordable to all homes and schools.
- Convene Information Technology professionals from all of the agencies mentioned above as well as regional business IT professionals to identify best practices, standards and learning resources that can be put to use in promoting access to broadband.
- Develop demonstration pilot projects including:
 - Access your healthcare information at the school.
 - NORCOR (Juvenile Justice) adoption pilot project.
 - A community education guide for how to access healthcare information.
 - Pilot "loop technology" in public buildings and churches for hearing assistance.

Goal Four: Increase availability of high quality broadband service in ALL Wasco County communities by driving demand through education.

As a result of the presence of Q-Life in The Dalles Google constructed a major data center here, bringing new employment opportunities to a community that had suffered the loss of well-paying jobs in the aluminum industry. Q-Life now has a revenue stream that could create a portion of the funding to promote broadband to other parts of our community. There is strategic value in revisiting the Q-Life strategy to build additional partnerships that focus on rural connectivity, rural broadband education, provider partnerships and awareness of the potential of broadband for communities and individuals.

Our Priority Action Agenda:

1. **Drive demand for service through education and marketing the impacts and benefits of broadband.** Education is key to "unlocking" latent demand for service, that would help make the business case for extending more capacity and services in rural areas.
2. **Explore partnerships to focus on demand activation and last mile accessibility.** Leverage other infrastructure, such as fiber assets owned by local power companies, telecommunications carriers, and state and federal government, to reduce cost of deployment through smart partnering and incentives.
3. **Explore all possibilities for leveraging existing public and private infrastructure to bridge rural last mile gaps.** The rural access problem is not limited to Wasco County, but exists in all rural areas of Oregon and in many rural areas across the nation.

Our Implementation Strategy:

- Develop a statewide policy to address rural broadband equity, and engage with the Oregon Broadband Advisory Council, Oregon Public Broadcasting and Oregon Business Development Department to formulate a statewide strategy to overcome rural broadband disparities.
- Drive "high capacity utilization" by businesses through education about web conferencing, video sharing, use of social media and other "power" uses of the Internet for marketing and business development.
- Market "lifeline" services, such as the \$9.95 low income options offered by carriers through meals-on-wheels or other in-home service delivery organizations.

- Form a cooperative effort between carriers to drive marketing and education on a public-private partnership basis to encourage adoption of broadband throughout the region.

Long-Term Strategies:

- Advocate for state or federal level policies or programs which extend rural broadband service. Participate in policy reform efforts focused on incentivizing rural accessibility.
- Partnership or pilot project with OPB, OBAC and OBDD to demonstrate a rural broadband project.

STRATEGIC OBJECTIVE

Leverage current technology planning efforts in our region, the region’s broadband infrastructure and our investment in middle-mile fiber plant to enhance our region’s economic vitality and quality of life.

STRATEGIC PRIORITIES

| Economic Development | Community Development | Education and Health | Utilization of Resources |
|----------------------|-----------------------|----------------------|--------------------------|
|----------------------|-----------------------|----------------------|--------------------------|

GOALS

| | | | |
|---|---|--|--|
| <i>1. Increase the number of new businesses entering the county and existing business retention and expansion by creating a technically fluent workforce.</i> | <i>2. Through digital literacy campaigns, increase adoption and utilization rates of broadband.</i> | <i>3. Improve health and education outcomes by leveraging tele-health and on-line learning modalities throughout the county.</i> | <i>4. Increase availability of high quality broadband service in ALL Wasco County communities by driving demand through education.</i> |
|---|---|--|--|

Strategies & Tactics (strategies in bold are highest priority)

| | | | |
|--|---|---|---|
| <ul style="list-style-type: none"> a. Provider collaboration on increasing adoption rates by establishing access ‘hubs’. b. Recruit and support local entrepreneurs in technology fields to start or expand businesses in the county. c. Expand bi-state collaboration within Mid-Columbia Region on broadband training, adoption and rural access initiatives. d. Assist fruit growers and other local businesses to adopt broadband-enabled strategies to compete in global markets. e. Market the business and quality-of-life benefits of The Dalles and Wasco County as a “connected community” to large employers with a telecommuting workforce. | <ul style="list-style-type: none"> a. Develop and promote policy for access equity in the County. b. Deploy an effective public awareness and outreach campaign that articulates broadband benefits and value. c. Establish partnerships to provide digital literacy training. Develop a community-based Technology Users Group with the mission of helping others, “neighbor-to-neighbor”, with broadband/ technology utilization skills. d. Establish means of increasing service and device affordability, e.g. neighborhood hot-spots, equipment recycle program and grants or subsidies. | <ul style="list-style-type: none"> a. Establish a policy to get broadband access to every address to support healthcare and education service delivery. b. Establish a public/private consortium for collaboration and sharing best practices across the education and healthcare sectors. c. Initiate a pilot program to test assumptions and develop best practices for using broadband to improve healthcare and/or educational outcomes. | <ul style="list-style-type: none"> a. Drive demand for service through education and marketing the impacts and benefits of broadband. b. Explore partnerships to focus on demand activation and last mile accessibility. c. Explore all possibilities for leveraging existing public and private infrastructure to bridge rural last mile gaps. d. Advocate for state or federal level policies or programs which extend rural broadband service. Participate in policy reform efforts focused on incentivizing rural accessibility. e. Partnership or pilot project with OPB, OBAC and OBDD to demonstrate a rural broadband project. |
|--|---|---|---|



CITY of THE DALLES

313 COURT STREET
THE DALLES, OR 97058

PH. (541) 296-5481
FAX (541) 296-6906

AGENDA STAFF REPORT CITY OF THE DALLES

| MEETING DATE | AGENDA LOCATION | AGENDA REPORT # |
|--------------|-----------------------|-----------------|
| July 8, 2013 | Action Items 12, B | 13-050 |

TO: Honorable Mayor and City Council

FROM: Gene E. Parker, City Attorney

THRU: Nolan K. Young, City Manager *ny*

DATE: June 27, 2013

ISSUE: Resolution No. 13-024, accepting a deed of dedication of property from Elk Horn Development, LLC, for public street purposes.

RELATED CITY COUNCIL GOAL: None.

PREVIOUS AGENDA REPORT NUMBERS: None.

BACKGROUND: On October 9, 2012, the City Planning Department issued a Notice of Administrative Decision for Subdivision #65-12. Elk Horn Development, LLC was the applicant for the subdivision. The Notice of Administrative Decision included as a condition of approval that the applicant would be required to dedicate twenty five feet of property along East 15th Street, for public right-of-way purposes, so that the width of East 15th Street could be increased to a total of fifty feet.

Enclosed with this staff report is Resolution No. 13-024, which proposes to accept the required dedication of property from the applicant. State law requires that the City take official action to acknowledge the proposed dedication of property for public right-of-way. Upon adoption of the resolution, the deed of dedication will be recorded with the Wasco County Clerk.

BUDGET IMPLICATIONS: The City will be paying a fee of \$61.00 to record the deed of dedication.

ALTERNATIVES:

- A. Staff Recommendation. *Move to adopt Resolution No. 13-024.*

RESOLUTION NO. 13-024

**A RESOLUTION ACCEPTING A DEDICATION OF
PROPERTY LOCATED ALONG EAST 15TH STREET
FOR PUBLIC STREET PURPOSES FROM
ELK HORN DEVELOPMENT, LLC**

WHEREAS, on October 9, 2012, the City Planning Department issued a Notice of Administrative Decision for Subdivision 65-12, which included a condition of approval that the applicant, Elk Horn Development, LLC, dedicate 25 feet of right-of-way along East 15th Street to increase the width of East 15th Street to a total of 50 feet; and

WHEREAS, the City Council concurs that dedication of the property for public street purposes is in the public interest;

**NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF THE DALLES
RESOLVES AS FOLLOWS:**

Section 1. Dedication Accepted. The dedication for public street purposes set forth in the attached deed is hereby accepted. The City Manager is hereby authorized to execute the Deed of Dedication, and the City Manager and City Clerk are authorized to execute the acceptance of the dedication and to take other necessary action to record the Deed of Dedication.

Section 2. Effective Date. This Resolution shall be effective July 8, 2013.

PASSED AND ADOPTED THIS 8TH DAY OF JULY, 2013

Voting Yes, Councilors: _____

Voting No, Councilors: _____

Absent, Councilors: _____

Abstaining, Councilors: _____

AND APPROVED BY THE MAYOR THIS 8TH DAY OF JULY, 2013

SIGNED: _____
Stephen E. Lawrence, Mayor

ATTEST: _____
Julie Krueger, MMC, City Clerk



CITY of THE DALLES
313 COURT STREET
THE DALLES, OREGON 97058

(541) 296-5481
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AGENDA STAFF REPORT CITY OF THE DALLES

| MEETING DATE | AGENDA LOCATION | AGENDA REPORT # |
|--------------|-----------------------|-----------------|
| July 8, 2013 | Action Items 12, C | 13-051 |

TO: Honorable Mayor and City Council

FROM: Kate Mast, Finance Director

THRU: Nolan K. Young, City Manager *NKY*

DATE: June 26, 2013

ISSUE: Adoption of Resolution No. 13-023 Adopting a Fraud Policy for the City of The Dalles.

BACKGROUND: The City of The Dalles currently does not have a formal Fraud Policy that details for employees and others the steps to be taken if fraud is suspected. It has been recommended by our auditors that such a policy be formalized by the City Council. They provided examples for our use, and staff has used those examples to draft this proposed Fraud Policy for consideration by the Council.

BUDGET IMPLICATIONS: None.

ALTERNATIVES:

- A. **Staff Recommendation:** *Move to adopt Resolution No. 13-023 Adopting a Fraud Policy for the City of The Dalles.*
- B. Council may choose to direct staff to revise the policy prior to adoption.
- C. Council may choose to not adopt a Fraud Policy at this time, which would leave staff and others with no clear direction as to the steps needed to report suspected fraud.

RESOLUTION NO. 13-023

**A RESOLUTION ADOPTING A FRAUD POLICY
FOR THE CITY OF THE DALLES**

WHEREAS, the City of The Dalles is committed to the highest standards of moral and ethical behavior; and

WHEREAS, the City wishes to establish responsibilities and procedures for reporting, investigating and resolving suspected acts of fraud, theft, waste, abuse and ethical misconduct;

**NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL AS
FOLLOWS:**

Section 1. The City Council hereby adopts the Fraud Policy shown as Exhibit A to this Resolution. This policy supersedes any prior policies adopted by the City Council which concern the same subject matter addressed by the Fraud Policy set forth in Exhibit A.

Section 2. The City Council hereby approves the creation of an Anti-Fraud Committee composed of the City Manager, City Attorney, City Clerk, and a Council Member. If the offices of any of these Committee members are suspected of fraudulent activity, that position will be replaced by an uninvolved Department Manager or Council Member until the issue is resolved.

Section 2. The City Council hereby authorizes the City Manager to develop, approve and change Administrative Policies as needed that reflect procedures and directives that support or clarify the Fraud Policy as approved by the City Council.

Section 3. This Resolution shall be effective upon adoption.

PASSED AND ADOPTED THIS 8th DAY OF JULY, 2013

Voting Yes, Councilors: _____
Voting No, Councilors: _____
Absent, Councilors: _____
Abstaining, Councilors: _____

AND APPROVED BY THE MAYOR THIS 8th DAY OF JULY, 2013

SIGNED:

ATTEST:

Stephen E. Lawrence, Mayor

Julie Krueger, MMC, City Clerk

City of The Dalles Fraud Policy

Exhibit A to Resolution No. 13-023

Section 1. Purpose

The City of The Dalles (City) is committed to the highest standards of moral and ethical behavior by employees, including management, elected officials, and volunteers, to strengthen the public's trust in the integrity of our municipal government. This policy establishes responsibilities and procedures for reporting, investigating and resolving suspected acts of fraud, theft, waste, abuse and ethical misconduct. It will provide a structure that will encourage the reporting of any suspicions of violations of this policy and will insure that employees are able to discuss their concerns in a secure and confidential environment.

Section 2. Scope

This policy is applicable to all City employees, elected officials, and volunteers who have a relationship with the City.

Section 3. Definitions of Fraud

A. **Fraud**: An intentional illegal use of City assets by any act including, but not limited to, theft, embezzlement or misrepresentation. Fraud is designed to obtain a benefit or advantage or cause some benefit that is due to be denied. Examples include, but are not limited to:

- Forgery or alteration of a check, document, or account belonging to the City;
- Misappropriation¹ of City funds, securities, supplies, or property;
- Unauthorized personal use of City equipment and supplies;
- Personal use of City credit cards or procurement cards (PCard);
- Profiteering as a result of insider knowledge;
- Theft of cash, checks, property, credit cards, or procurement cards;
- Falsifying records such as timecards, expense reports or official documents;
- Willful destruction of City property;
- Employee with access to confidential information who sells this information for personal gain;
- Accepting or seeking anything of material value from contractors, vendors, or persons providing services/materials to the City or City job applicants.

¹ Misappropriation: To illegally use public funds or assets, which have been set aside for a specific purpose, for personal gain.

B. **Waste**: The expenditure or allocation of resources significantly in excess of need. Examples include, but are not limited to:

- Unauthorized use or misuse of City facilities, equipment or vehicles;
- Falsifying time worked or leave taken on a timesheet;
- Retaining ineligible dependents on health care coverage;
- Unnecessary incurring of costs as a result of inefficient or negligent practices, systems or controls.

C. **Abuse of Position**: Use of employment or official position with the City to obtain personal gain or benefit from the City to which one is not entitled. Examples of *abuse of position* include, but are not limited to:

- Obtaining a benefit or service from the City which one does not qualify;
- Providing a benefit or service to someone for which they do not qualify;
- Unauthorized reductions in fees and fines;
- Suspending or terminating enforcement action based on a personal relationship;
- Bid-fixing.

D. **Ethical Misconduct**: Individuals, who conduct their official duties in a manner which is not impartial, use their position for personal gain, or fail to properly disclose an actual or potential conflict of interest. Examples include, but are not limited to:

- Authorizing contracts in violation of municipal purchasing laws;
- Failure to disclose an actual or potential conflict of interest;
- Accepting gifts prohibited by Oregon ethics laws.

E. **Job Application Fraud**: Individuals, who knowingly provide false information on job applications.

Section 4. Policy

Through all levels of management, the City is responsible for the prevention and detection of fraud, misappropriation of City funds, or any other conduct which is deemed inappropriate pursuant to this or other City policies. It is the City's intent to fully investigate any suspected acts of fraud, theft, abuse, waste or unethical behavior, in an impartial manner regardless of the suspected wrong-doer's length of service, position, title or relationship to the City.

Any violation of this policy that is detected or suspected by City employees, elected officials, volunteers, or others who have a business relationship with the City, must be reported immediately to the City Manager or the Anti-Fraud Committee outlined in the Responsibilities and Procedures

section of this policy. The Anti-Fraud Committee will determine who will investigate the suspected fraudulent activity in accordance with this policy.

Any employee found to have violated this policy will be subject to disciplinary action up to and including dismissal and/or prosecution by the appropriate authorities. Elected officials, volunteers and others having a business relationship with the City may be subject to sanctions or prosecution by the appropriate authorities.

The City intends to pursue every reasonable legal remedy when a violation has occurred and to obtain recovery of any losses from the offender, including when appropriate, notifications of bonding company, court ordered restitution, or other available remedies.

Section 5. Anti-Fraud Committee

The City's Anti-Fraud Committee will be comprised of the City Manager, a Council Member, the City Clerk, and the City Attorney. The Committee will appoint the investigator and oversee and coordinate all actions taken during the course of the investigation. The investigator will have unlimited and unrestricted access to all relevant City files at all times in order to facilitate investigative work as permitted by City policy and state and federal law. All investigations conducted by the Committee are considered part of the audit process and the working papers will be kept confidential in accordance with state statutes and administrative rules regarding public records laws.

Great care must be taken in the investigation of suspected fraudulent activity to avoid mistaken accusations or alerting suspected individuals that an investigation is under way, or making any statement which could provide a basis for a suit for false accusation or other offenses.

In cases where the suspected fraudulent activity involves the offices of any of the members of the Anti-Fraud Committee, the position(s) involved will be replaced on the Committee by another Department Manager or Council Member who is not involved in the suspected fraudulent activity. The reformed Committee will then determine the investigation process and assign an investigator.

The Committee members who have been replaced on the Anti-Fraud Committee due to their offices being investigated may or may not be apprised of the investigation and updated on progress as is deemed appropriate by the Anti-Fraud Committee.

The Anti-Fraud Committee does not pronounce or implement disciplinary action as a result of their investigations (see Section 7. Disciplinary Action).

Section 6. Responsibilities and Procedures

Management and Employees: Managers, supervisors, and administrators at all levels are responsible for maintaining a system of internal controls which prevent, deter, or detect fraud, theft, waste, abuse, and/or unethical or dishonest behavior. Managers, supervisors, and administrators are also expected and required to recognize risks and potential exposures that may be inherent within their areas of responsibility, to be alert to any indication of irregularity or potential violation of this policy, and to know and follow the requirements set forth in this policy.

Each employee is required to report any suspected or detected violation of this policy, fraud, theft, waste, abuse or other unethical or dishonest conduct. An employee may choose to report immediately the suspicion and/or detection to their department manager, who in turn must immediately report the information to the City Manager or the Anti-Fraud Committee. If the employee is not comfortable reporting directly to their department manager, the employee may immediately report their suspicion directly to the City Manager or any member of the Anti-Fraud Committee. Suspected fraudulent activity² and/or violations of this policy involving the City Manager's Office must be reported to the Anti-Fraud Committee immediately.

The employee reporting suspected violations of this policy and/or fraudulent activity may choose to identify themselves or to remain anonymous. The identity of an employee or complainant who reports suspected fraudulent activity will be protected to the fullest extent possible, but the City cannot guarantee confidentiality. It is the City's intent to protect an employee who discloses information of suspected fraudulent activity from retaliatory actions by other individuals in accordance with Oregon Statutes, Section 659A.200-203 (Whistleblower's Act), which prohibits adverse personnel actions against an employee for disclosing this information. Retaliation against an employee or other person who reports a detected or suspected violation of this policy is strictly prohibited. Any employee who retaliates against a person for reporting a detected or suspected violation of this policy will be subject to discipline up to and including termination of employment.

In all cases, the reporting employee must provide enough detail about the activity to aid in the investigation. All employees, which include management employees, will cooperate with the Anti-Fraud Committee and investigators and will not by any means personally investigate the suspected fraud, or contact the suspected individual in an effort to determine facts or demand restitution.

All employees shall cooperate with the investigative processes of the Committee and law enforcement agencies including prosecution of offenders. All participants in a fraud investigation will keep details and results of the investigation confidential. All inquiries from suspected individuals and their legal representatives must be directed to the City Manager, his/her designee, or the City Clerk. Proper response to such an inquiry is, "I am not at liberty to discuss this matter."

Great care must be taken in the investigation of suspected fraudulent activity to avoid mistaken accusations or alerting suspected individuals that an investigation is under way, or making any statement which could provide a basis for a suit for false accusation or other offenses.

The Committee will evaluate the extent of any potential criminal activity. If any potential prosecutable criminal activity exists, the Police Department or other appropriate law enforcement agency will be notified and will conduct the investigation. The Committee will assist with the investigation if law enforcement requests such assistance. In every case, the City will cooperate fully with the investigating and prosecuting authorities. If no potentially prosecutable criminal activity exists, the Anti-Fraud Committee will appoint an appropriate person to conduct the investigation with the assistance of other appropriate City officials.

² Fraudulent activity for the purpose of this policy encompasses fraud, theft, waste, and abuse, unethical and all other dishonest conduct.

If fraudulent activity is detected or reasonably suspected of the City Manager or City Attorney, the City Clerk will apprise the Mayor and Council of the investigation and update them on progress as is deemed appropriate.

The City Manager, his/her designee, or the City Clerk, as appropriate, may notify the Mayor and Council of a reported allegation of fraudulent activity upon the start of the investigation to the extent practical. The Mayor and Council will be apprised of the progress of the investigation as deemed appropriate by the Anti-Fraud Committee. At the conclusion of the investigation, a confidential report will be issued and distributed to the Mayor, City Council, City Manager, and City Attorney. After their review, a copy of the report will be provided to the appropriate department head and the Finance Director, unless either of those positions were the subject of the investigation.

Section 7. Disciplinary Action

If a suspected or detected violation of this policy is substantiated by an investigation, the City Manager will take the appropriate action in conformance with City and departmental personnel policies and procedures, and union contracts if applicable. If the investigation involved the City Manager, City Attorney or Municipal Judge, then the City Council will take the appropriate action in conformance with City and departmental personnel policies and procedures. Violations of the City's Fraud Policy will result in disciplinary actions up to and including immediate dismissal. Examples of violations of this policy, which can lead to disciplinary action up to and including dismissal, include but are not limited to an employee who:

- Commits an act of fraud, theft, abuse, waste or other unethical behavior as defined by this policy;
- Suspects, discovers or has knowledge of fraudulent activity that violates or potentially violates this policy and fails to report the information as required by this policy; or
- Intentionally reports false or misleading information of fraudulent activity; or
- Retaliates against or penalizes any individual for reporting or cooperating in the investigation or prosecution of fraudulent activity.

Section 8. Distribution

All City employees, volunteers and elected officials will be given a copy of this policy. All newly hired employees and appointed volunteers will be provided a copy as part of orientation and required to provide a written acknowledgement upon receipt of the policy which be retained by the City Clerk/General Services Department.

Section 9. Administration

The City Manager is responsible for the administration, revision, interpretation and application of this policy. The policy will be reviewed and revised as needed.

ACKNOWLEDGEMENT OF RECEIPT OF CITY OF THE DALLES FRAUD POLICY

I hereby acknowledge the receipt of a copy of the **City of The Dalles Fraud Policy**. I agree to read and familiarize myself with the contents and I understand I will be responsible for adhering to this Policy. I agree to abide by the City's rules and procedures as outlined in this Policy.

Signature

Date

Printed Name

Relationship to the City
(Employee/Volunteer/Elected)



CITY OF THE DALLES
Department of Public Works
1215 West First Street
The Dalles, Oregon 97058

AGENDA STAFF REPORT CITY OF THE DALLES

| MEETING DATE | AGENDA LOCATION | AGENDA REPORT # |
|---------------|--------------------------|-----------------|
| June 24, 2013 | Discussion Item 14, A | 13-042 |

TO: Honorable Mayor and City Council

FROM: Dave Anderson, Public Works Director

THRU: Nolan K. Young, City Manager *NKY*

DATE: June 7, 2013

ISSUE: Discussion regarding fluoridation of the City's water supply.

CITY COUNCIL GOALS: N.A.

BACKGROUND: On February 11, 2013 City Council heard public comment from Robert Boyet expressing his concern about the current practice of fluoridating the City's drinking water. In response to those concerns, it was decided to provide an opportunity for an expanded discussion of the issue at a future City Council meeting. While it's impractical to summarize all the related studies and information on the topic in this forum, this report provides some background information related to the issue.

The practice of fluoridation of public water supplies is recommended by US and world health agencies, including the World Health Organization (WHO), the American Medical Association (AMA), the Canadian Medical Association (CMA), the US Center for Disease Control (CDC), the American Dental Association (ADA), and the Canadian Dental Association (CDA) as a public health benefit. The CDC lists fluoridation of drinking water as one of the ten greatest public health achievements of the 20th century. The US Surgeon General provided a statement in 2004 stating that "community water fluoridation continues to be the most cost-effective, equitable and safe means to provide protection from tooth decay in a community" and that "every \$1 invested in fluoridation saves \$38 or more in treatment costs." In a letter dated September 6, 2012 the Oregon State Epidemiologist supported fluoridation of the Portland drinking water supply stating that it is "an effective, affordable and, most importantly, **safe** way to improve the public's health," and that it is "consistent with the state's effort to focus health care on preventive rather than after-the-fact acute care."

Fluorides occur naturally in soil, air and water at varying concentrations and nearly all water contains some level of fluoride. Federal and state drinking water regulations limit the amount of fluoride that can be in drinking water at a maximum of 4 parts per million (ppm). Long term exposure to levels higher than this can cause skeletal fluorosis resulting in brittle bones. The US Public Health Service recommends that public water supplies contain between 0.7 and 1.2 ppm to prevent tooth decay. The City currently fluoridates water from the Wicks Water Treatment Plant and the Lone Pine Well to 0.7 ppm. The City's other two water sources, Jordan and Marks Wells, have natural fluoride levels of 0.6-0.7 ppm so no fluoride is added to these supplies. The annual cost of the City's water fluoridation program is less than \$10,000 per year.

The City of The Dalles began fluoridating its municipal water supply in about 1957. The first fluoridation equipment was purchased by one of the local service organizations. Fluoridation of the City's water supply has been continuous since that time with the exception of a brief period in the 1970's when it was discontinued in response to gas shortages in the nation at that time.

For many people, the issue of fluoridation remains a controversial topic. For some, there is concern about possible adverse health affects while others focus on freedom of choice issues. One of the main health concerns cited by opponents is a possible link between fluoride and cancer. However, the American Cancer Society has currently-posted information stating that, after review of over 50 population-based studies and reports from International Agency for Research on Cancer, the US Public Health Service, the National Research Council, the National Health Service Centre for Reviews and Dissemination in the United Kingdom, the US CDC, and the Harvard School of Public Health, "the general consensus among the reviews done to date is that there is no strong evidence of a link between water fluoridation and cancer." The American Cancer Society report also identified that several of the reviews noted that further studies are needed to clarify a possible link.

Some fluoridation opponents cite studies conducted in China claiming a link between fluoride and lower IQ scores. However, those studies have been criticized as involving fluoride levels double or triple the levels used in US drinking water supplies and has having other complicating factors such as arsenic exposure, the burning of high-fluoride coal inside homes, and the eating of contaminated grains.

Some opponents question the need to fluoridate water in the US since it isn't widely done in Europe, implying that dental health is generally good in these developed nations without fluoridation. This argument ignores the fact that several European nations rely on alternative methods of fluoridation for technical reasons, primarily by utilizing fluoridated salt and milk rather than water supplies.

It has been argued that fluoridating public water supplies equates to forcing people to take medication. Fluoride is not a medication; it is a mineral that, when present at the right levels, helps prevent tooth decay and contributes to healthy bones. US court decisions have rejected the argument that fluoride is a medication. The American Journal of Public Health summarized one of these rulings, noting that "fluoride is not a medication, but rather a nutrient found naturally in some areas but deficient in others."

Water system fluoridation opponents often claim that there are plenty of viable alternatives to prevent tooth decay such as fluoridated tooth pastes and rinses. However, Dr. Eli Schwartz, Professor and Chair of the Department of Community Dentistry, Oregon Health Sciences

University, provided information that refutes this claim. While supporting the fluoridation of the Portland, Oregon water supply, Dr. Schwartz provided information showing dramatic decreases in

“Urgent” and “Emergency” level dental needs when comparing data from the non-fluoridated community of Oakridge to the fluoridated community of Florence, both in Lane County, Oregon. In that same presentation, Dr. Schwartz provided data indicating that hospital charges for severe cavities were 70% less in The Dalles than in Hood River, a non-fluoridated community. Presumably, citizens of both The Dalles and Hood River have nearly equal access to fluoridated tooth paste and rinses.

Attached to this report are:

- Exhibits 1- 8 providing information from the US CDC, US Surgeon General, Oregon Health Authority, American Water Works Association, American Cancer Society, iLikeMyTeeth.org, and Dr. Eli Schwartz supporting the fluoridation of public water supplies.
- Exhibits 9 – 17 including the letter from Mr. Boyet and documents from the Republic Magazine, Journal of American Physicians and Surgeons, Dr. Hardy Limeback, Kristian Foden-Vencil, the Hood River News, the Fluoride Action Network, PR Newswire, and a paper entitled “Fluoride Free – I Just Want The Choice” generally opposing fluoridation of public water supplies. Staff has not tried to summarize or evaluate the content of these documents so as to avoid possibly misrepresenting their information.

BUDGET IMPLICATIONS: None – Discussion Item only

RECOMMENDATIONS:

1. **Staff Recommendation:** Continue fluoridation of the City’s water supply consistent with recommendations of major health agencies.
2. Provide direction to staff to provide additional information for future consideration.
3. Provide additional direction to staff on how to proceed.

*Weekly*

April 02, 1999 / 48(12);241-243

Ten Great Public Health Achievements -- United States, 1900-1999

During the 20th century, the health and life expectancy of persons residing in the United States improved dramatically. Since 1900, the average lifespan of persons in the United States has lengthened by greater than 30 years; 25 years of this gain are attributable to advances in public health (1). To highlight these advances, MMWR will profile 10 public health achievements (see box) in a series of reports published through December 1999.

Many notable public health achievements have occurred during the 1900s, and other accomplishments could have been selected for the list. The choices for topics for this list were based on the opportunity for prevention and the impact on death, illness, and disability in the United States and are not ranked by order of importance.

The first report in this series focuses on vaccination, which has resulted in the eradication of smallpox; elimination of poliomyelitis in the Americas; and control of measles, rubella, tetanus, diphtheria, Haemophilus influenzae type b, and other infectious diseases in the United States and other parts of the world.

Ten Great Public Health Achievements -- United States, 1900-1999

- Vaccination
- Motor-vehicle safety
- Safer workplaces
- Control of infectious diseases
- Decline in deaths from coronary heart disease and stroke
- Safer and healthier foods
- Healthier mothers and babies
- Family planning
- Fluoridation of drinking water

- ◉ Recognition of tobacco use as a health hazard

Future reports that will appear in MMWR throughout the remainder of 1999 will focus on nine other achievements:

- ◉ Improvements in motor-vehicle safety have resulted from engineering efforts to make both vehicles and highways safer and from successful efforts to change personal behavior (e.g., increased use of safety belts, child safety seats, and motorcycle helmets and decreased drinking and driving). These efforts have contributed to large reductions in motor-vehicle-related deaths (2).
- ◉ Work-related health problems, such as coal workers' pneumoconiosis (black lung), and silicosis -- common at the beginning of the century -- have come under better control. Severe injuries and deaths related to mining, manufacturing, construction, and transportation also have decreased; since 1980, safer workplaces have resulted in a reduction of approximately 40% in the rate of fatal occupational injuries (3).
- ◉ Control of infectious diseases has resulted from clean water and improved sanitation. Infections such as typhoid and cholera transmitted by contaminated water, a major cause of illness and death early in the 20th century, have been reduced dramatically by improved sanitation. In addition, the discovery of antimicrobial therapy has been critical to successful public health efforts to control infections such as tuberculosis and sexually transmitted diseases (STDs).
- ◉ Decline in deaths from coronary heart disease and stroke have resulted from risk-factor modification, such as smoking cessation and blood pressure control coupled with improved access to early detection and better treatment. Since 1972, death rates for coronary heart disease have decreased 51% (4).
- ◉ Since 1900, safer and healthier foods have resulted from decreases in microbial contamination and increases in nutritional content. Identifying essential micronutrients and establishing food-fortification programs have almost eliminated major nutritional deficiency diseases such as rickets, goiter, and pellagra in the United States.
- ◉ Healthier mothers and babies have resulted from better hygiene and nutrition, availability of antibiotics, greater access to health care, and technologic advances in maternal and neonatal medicine. Since 1900, infant mortality has decreased 90%, and maternal mortality has decreased 99%.
- ◉ Access to family planning and contraceptive services has altered social and economic roles of women. Family planning has provided health benefits such as smaller family size and longer interval between the birth of children; increased opportunities for preconceptional counseling and screening; fewer infant, child, and maternal deaths; and the use of barrier contraceptives to prevent pregnancy and transmission of human immunodeficiency virus and other STDs.
- ◉ Fluoridation of drinking water began in 1945 and in 1999 reaches an estimated 144 million persons in the United States. Fluoridation safely and inexpensively benefits both children and adults by effectively preventing tooth decay, regardless of socioeconomic status or access to care. Fluoridation has played an important role in the reductions in tooth decay (40%-70% in children)

and of tooth loss in adults (40%-60%) (5).

- Recognition of tobacco use as a health hazard and subsequent public health anti-smoking campaigns have resulted in changes in social norms to prevent initiation of tobacco use, promote cessation of use, and reduce exposure to environmental tobacco smoke. Since the 1964 Surgeon General's report on the health risks of smoking, the prevalence of smoking among adults has decreased, and millions of smoking-related deaths have been prevented (6).

The list of achievements was developed to highlight the contributions of public health and to describe the impact of these contributions on the health and well being of persons in the United States. A final report in this series will review the national public health system, including local and state health departments and academic institutions whose activities on research, epidemiology, health education, and program implementation have made these achievements possible.

Reported by: CDC.

References

1. Bunker JP, Frazier HS, Mosteller F. Improving health: measuring effects of medical care. *Milbank Quarterly* 1994;72:225-58.
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5. Burt BA, Eklund SA. *Dentistry, dental practice, and the community*. Philadelphia, Pennsylvania: WB Saunders Company, 1999:204-20.
6. Public Health Service. *For a healthy nation: returns on investment in public health*. Atlanta, Georgia: US Department of Health and Human Services, Public Health Service, Office of Disease Prevention and Health Promotion and CDC, 1994.

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Morbidity and Mortality Weekly Report
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July 28, 2004

SURGEON GENERAL STATEMENT ON COMMUNITY WATER FLUORIDATION

As noted in *Oral Health in America: A Report of the Surgeon General*, community water fluoridation continues to be the most cost-effective, equitable and safe means to provide protection from tooth decay in a community. Scientific studies have found that people living in communities with fluoridated water have fewer cavities than those living where the water is not fluoridated. For more than 50 years, small amounts of fluoride have been added to drinking water supplies in the United States where naturally-occurring fluoride levels are too low to protect teeth from decay. Over 8,000 communities are currently adjusting the fluoride in their community's water to a level that can protect the oral health of their citizens.

Over 170 million people, or 67 percent of the United States population served by public water supplies, drink water with optimal fluoride levels for preventing decay. Of the 50 largest cities in the country, 43 are fluoridated. Although water fluoridation reaches some residents in every state, unfortunately, only 24 states are providing these benefits to 75% or more of their residents.

A significant advantage of water fluoridation is that all residents of a community can enjoy its protective benefit—at home, work, school or play— simply by drinking fluoridated water or beverages and foods prepared with it. A person's income level or ability to receive routine dental care is not a barrier to receiving fluoridation's health benefits. Water fluoridation is a powerful strategy in our efforts to eliminate differences in health among people and is consistent with my emphasis on the importance of prevention.

The U.S. Centers for Disease Control and Prevention has recognized the fluoridation of drinking water as one of ten great public health achievements of the twentieth century. Water fluoridation has helped improve the quality of life in the United States by reducing pain and suffering related to tooth decay, time lost from school and work, and money spent to restore, remove, or replace decayed teeth. An economic analysis has determined that in most communities, every \$1 invested in fluoridation saves \$38 or more in treatment costs. Fluoridation is the single most effective public health measure to prevent tooth decay and improve oral health over a lifetime, for both children and adults.

While we can be pleased with what has already been accomplished, it is clear that there is much yet to be done. Policymakers, community leaders, private industry, health professionals, the media, and the public should affirm that oral health is essential to general health and well being and *take action* to make ourselves, our families, and our communities healthier. I join previous Surgeons General in acknowledging the continuing public health role for community water fluoridation in enhancing the oral health of all Americans.

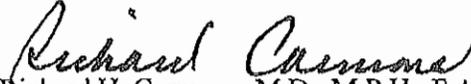

Richard H. Carmona, M.D., M.P.H., F.A.C.S.
VADM, USPHS
United States Surgeon General

Exhibit 3

PUBLIC HEALTH DIVISION
Office of Disease Prevention and Epidemiology
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September 6, 2012

TO: Mayor Sam Adams
Portland City Council members

FROM: Katrina Hedberg, M.D., M.P.H.,
State Epidemiologist, and Chief Science Officer
Public Health Division, Oregon Health Authority

Subject: Support for fluoridation of Portland's drinking water

Mayor Adams and Portland City Council members; I am Dr. Katrina Hedberg, State Epidemiologist and Chief Science Officer at the Public Health Division of the Oregon Health Authority. I am here today to offer strong support for fluoridation of Portland's drinking water as an evidence-based method to prevent tooth decay.

Tooth decay is a serious problem and fluoridation is an effective, affordable and, most importantly, **safe** way to improve the public's health. It is also consistent with the state's effort to focus health care on prevention rather than after-the-fact acute care.

Despite Oregon's advancements in improving health and access to health care services, we rank 48th among states in the percent of our population on fluoridated public drinking water systems.

As a result, we are in a dental health crisis in Oregon. Our "Smile Survey" results show that among Oregon first- through third-grade children, 64 percent of kids had cavities, 36 percent had untreated tooth decay, and 20 percent, or one in five, had rampant decay (seven or more decayed teeth). We rank near the bottom of states in the U.S. on children's dental health.

Community water fluoridation can make huge improvements in oral health. Fluoridation is the most important intervention we have at our disposal to ensure optimal dental health in the community, particularly of children.

Thank you for the opportunity to testify.

Fluoridation of Public Water Supplies

The American Water Works Association (AWWA) supports the recommendations of the World Health Organization (WHO), American Medical Association (AMA), Canadian Medical Association (CMA), Centers for Disease Control (CDC), American Dental Association (ADA), Canadian Dental Association (CDA), and other professional organizations in the medical community, for the fluoridation of public water supplies as a public health benefit. AWWA supports the application of fluoride in a responsible, effective, and reliable manner that includes monitoring and control of fluoride levels mandated by provincial, state, and/or federal laws and that is subject to community acceptance through applicable local decision-making processes. AWWA is committed to regular reviews of the most current research on fluoride and the positions of the medical and dental communities.

Adopted by the Board of Directors Jan. 25, 1976, reaffirmed Jan. 31, 1982, revised Jan. 20, 2002, revised Jan. 21, 2007, and revised Jan. 22, 2012.

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Water Fluoridation and Cancer Risk

More than 60 years after fluoride was first added to drinking water in some parts of the United States, there is still controversy about the possible health effects of drinking water fluoridation. Many people hold strong views either for or against water fluoridation. Their concerns are based on everything from legitimate scientific research, to freedom of choice issues, to government conspiracy theories.

Here we will explore the possible link between fluoridation and cancer. We will not address in detail other possible health effects of water fluoridation (positive or negative). This is not intended as a position statement of the American Cancer Society.

What is fluoride?

Fluorides are compounds that combine the element fluorine with another substance, usually a metal. Examples include sodium fluoride, stannous fluoride, and fluoride monofluorophosphate (MFP fluoride).

Once in the body, fluorides are absorbed into the blood through the digestive tract. They travel through the blood and tend to collect in areas high in calcium, such as the bones and teeth.

Where is fluoride found?

Some fluorides occur naturally in soil, air, or water, although the levels of fluoride can vary widely. Just about all water contains some level of fluoride.

The major sources of fluoride for humans are water and other beverages, food, and fluoride-containing dental products (toothpastes, mouth rinses, etc.). Because dental products are generally not swallowed (except, perhaps, by younger children), they may be less of a concern with regard to possible health issues.

Fluoride in drinking water

Water fluoridation began in some parts of the United States in 1945, after scientists noted that people living in areas with higher water fluoride levels had fewer cavities.

The United States Public Health Service (PHS) has, since 1962, recommended that public water supplies contain between 0.7 and 1.2 milligrams of fluoride per liter (mg/L) of drinking water to help prevent tooth decay. (Some natural water sources have fluoride levels within this range, or even higher.)

Fluoride is now used in the public drinking water supplied to about 2 out of 3 Americans. The types of fluoride added to different water systems include fluorosilicic acid, sodium fluorosilicate, and sodium fluoride.

The US Environmental Protection Agency (EPA) has set a maximum amount of fluoride allowable in drinking water of 4.0 mg/L. Long-term exposure to levels higher than this can cause a condition called *skeletal fluorosis*, in which fluoride accumulates in the bones. This can eventually result in joint stiffness and pain, and can lead to weak or brittle bones in older adults.

The EPA also set a secondary standard of no more than 2.0 mg/L to help protect children (under the age of 9) from dental fluorosis. In this condition, fluoride collects in developing teeth, preventing tooth enamel from forming normally and resulting in permanent staining or pitting of teeth.

Some states have maximum fluoride levels in drinking water that are lower than the national 4.0 mg/L standard.

Does fluoride cause cancer?

People have raised questions about the safety and effectiveness of water fluoridation since it first began. Over the years, many studies have looked at the possible link between fluoride and cancer.

Some of the controversy concerning the possible link stems from a study of lab animals reported by the US National Toxicology Program in 1990. The researchers found "equivocal" (uncertain) evidence of cancer-causing potential of fluoridated drinking water in male rats, based on a higher than expected number of cases of osteosarcoma (a type of bone cancer). There was no evidence of cancer-causing potential in female rats or in male or female mice.

Osteosarcoma seems to be the cancer about which the most concern has been raised. One theory on how fluoridation might affect the risk of osteosarcoma is based on the fact that fluoride tends to collect in parts of bones where they are growing. These areas, known as growth plates, are where osteosarcomas typically develop. The theory is that fluoride might somehow cause the cells in the growth plate to grow faster, which might make them more likely to eventually become cancerous.

What have studies in humans found?

More than 50 population-based studies looking at the potential link between water fluoride levels and cancer have been reported in the medical literature. Most of these have not found a strong link to cancer. Just about all of the studies have been retrospective (looking back in time). They have compared, for example, the rates of cancer in a community before and after water fluoridation, or compared cancer rates in communities with lower levels of fluoride in drinking water to those with higher levels (either naturally or due to fluoridation). Some factors are hard to control for in these types of studies (that is, the groups being compared may be different in ways other than just the drinking water), so the conclusions reached by any single study must be looked at with caution.

And there are other issues that make this topic hard to study. For example, if fluoridation is a risk factor, is the type of fluoride used important? Also, is there a specific level of fluoride above which the risk is increased?

Osteosarcoma is a rare cancer. Only about 400 cases are diagnosed in children and teens each year in the United States. This means it can be hard to gather enough cases to do large studies. Smaller studies can usually detect big differences in cancer rates between 2 groups, but they may not be able to detect a smaller difference. If fluoride increased the risk only slightly, it might not be picked up by these types of studies.

Small studies by themselves may not provide the answers, but taken as a whole they tend to have more weight. Several systematic reviews over the past 25 years have looked at all of the studies published on this subject.

In its review published in 1987, the International Agency for Research on Cancer (IARC), part of the World Health Organization, labeled fluorides as "non-classifiable as to their carcinogenicity [ability to cause cancer] in humans." While they noted that the studies "have shown no consistent tendency for people living in areas with high concentrations of fluoride in the water to have higher cancer rates than those living in areas with low concentrations," they also noted that the evidence was inadequate to draw conclusions one way or the other.

In 1991, the US Public Health Service issued a report on the benefits and risks of fluoride. When looking at a possible link with cancer, they first reviewed the results of studies done with lab animals. They concluded that the few studies available "fail[ed] to establish an association between fluoride and cancer." They also looked at population-based studies, including a large study conducted by the National Cancer Institute. They concluded: "Optimal fluoridation of drinking water does not pose a detectable cancer risk to humans as evidenced by extensive human epidemiological data available to date, including the new studies prepared for this report."

The National Research Council (NRC), part of the National Academies, issued a report titled "Health Effects of Ingested Fluoride" in 1993. Its conclusion was that "the available laboratory data are insufficient to demonstrate a carcinogenic effect of fluoride in animals." They also concluded that "the weight of the evidence from the epidemiological [population-based] studies completed to date does not support the hypothesis of an association between fluoride exposure and increased cancer risk in humans." The report recommended that additional well-designed studies be done to look at the possible link to cancers, especially osteosarcomas.

In the United Kingdom, the National Health Service (NHS) Centre for Reviews and Dissemination, University of York, published a systematic review of water fluoridation in the year 2000. After searching through the medical literature, they included 26 studies in their analysis, all of which were considered to be of "low" to "moderate" quality. They concluded, "Overall, no clear association between water fluoridation and incidence or mortality of bone cancers, thyroid cancer, or all cancers was found." However, they also noted, "Given the level of interest surrounding the issue of public water fluoridation, it is surprising to find that little high quality research has been undertaken."

The National Research Council issued an update of its 1993 review in early 2006. While the review included some new data, the results of this report were essentially the same: "On the basis of the committee's collective consideration of data from humans, genotoxicity assays, and studies of mechanisms of actions in cell systems, the evidence on the potential of fluoride to initiate or promote cancers, particularly of the bone, is tentative and mixed." The report also noted that an ongoing study from the Harvard School of Public Health would add important information to the current body of research.

A partial report from the Harvard study, published in 2006, found that exposure to higher levels of fluoride in drinking water was linked to a higher risk of osteosarcoma in boys but not in girls. However, researchers linked to the study noted that early results from a second part of the study did not appear to match those of the report. They therefore advised caution in interpreting the report until the full results of the study become available. The full study has not yet been published.

The US Centers for Disease Control and Prevention (CDC) has issued a statement on water fluoridation and osteosarcoma in response to the study, noting that "at this time, the weight of the scientific evidence, as assessed by independent committees of experts, comprehensive systematic reviews, and review of the findings of individual studies does not support an association between water fluoridated at levels optimal for oral health and the risk for cancer, including osteosarcoma." The statement also noted that further results from the Harvard study should "provide further information as to whether and to what extent an association may exist between osteosarcoma and exposure to fluoride."

The general consensus among the reviews done to date is that there is no strong evidence of a link between water fluoridation and cancer. However, these reviews were all done before the partial results of the Harvard study were published in 2006. Several of the reviews noted that further studies, including the full results of the Harvard study, are needed to clarify the possible link.

Can you reduce your fluoride exposure?

Even without fluoridation, the natural levels of fluoride in water in some places can be even higher than 4 mg/L. Community water systems in such areas are required to lower the fluoride level below the acceptable standard. Private water sources, however, may still be higher.

For people concerned that they or their families may be exposed to too much fluoride, there are some steps that can be taken to reduce exposure.

First, people should know the level of fluoride in their drinking water. If your drinking water comes from a public source, you can find out about the levels of certain substances in your drinking water, including fluoride, by contacting your local community water system. Each system is also required to provide its customers with an annual report on water quality known as a Consumer Confidence Report. This report lists the levels of certain chemicals and other substances in the water, including fluoride. You can also contact the EPA's Safe Drinking Water Hotline at 1-800-426-4791 for more general information about drinking water safety. Those who get their drinking water from a private source such as a well can consider having fluoride levels tested by a reputable laboratory.

People who live in areas with high levels of fluoride in the water may consider using alternative sources of drinking water, such as bottled water. Most bottled water contains at least some fluoride, with natural spring waters tending to be the lowest. You may want to contact the bottler to find out about fluoride levels. (The US Food and Drug Administration (FDA) sets the standards for allowable levels of fluoride in bottled water.) There are also several methods to filter fluoride out of water, although these can be expensive.

Parents with concerns should give small children only a pea-sized amount of toothpaste for brushing, and should do their best to ensure their children are not swallowing, as this can be a significant source of fluoride. Speak to your child's dentist before using toothpaste in children under 2 years of age. Low- and no-fluoride toothpastes and other dental products are also available.

Additional resources

More information from your American Cancer Society

The following related information may also be helpful to you. These materials may be viewed on our Web site or ordered from our toll-free number, at 1-800-227-2345.

Known and Probable Human Carcinogens

National organizations and Web sites*

In addition to the American Cancer Society, other sources of information include:

Centers for Disease Control and Prevention (CDC)

Toll-free number: 1-800-CDC-INFO (1-800-232-4636)

Web site: www.cdc.gov

Community water fluoridation page: www.cdc.gov/fluoridation

Environmental Protection Agency

Toll-free number (Safe Drinking Water Hotline): 1-800-426-4791

Web site: www.epa.gov

Ground water & drinking water page: www.epa.gov/safewater/index.html

National Cancer Institute

Toll-free number: 1-800-4-CANCER (1-800-422-6237)

Web site: www.cancer.gov

Fluoridated water page: www.cancer.gov/cancertopics/factsheet/Risk/fluoridated-water

**Inclusion on this list does not imply endorsement by the American Cancer Society.*

No matter who you are, we can help. Contact us anytime, day or night, for information and support. Call us at 1-800-227-2345 or visit www.cancer.org.

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Last Medical Review: 11/03/2010

Last Revised: 11/03/2010

MYTHS & FACTS

Responses to common anti-fluoride claims

For more information, go to iLikeMyTeeth.org

| THE TRUTH | OPPONENT'S CLAIM | THE FACTS |
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| <p>Fluoride occurs naturally in water, though rarely at the optimal level to protect teeth.</p> | <p><i>"Fluoride doesn't belong in drinking water."</i></p> | <ul style="list-style-type: none"> It's already there. Fluoride exists naturally in virtually all water supplies and even in various brands of bottled water. If the people making this statement truly believed it, they would no longer drink water or grape juice — or eat shellfish, meat, cheese or other foods that contain trace levels of fluoride. What's at issue is the amount of fluoride in water. There are proven benefits for public health that come from having the optimal level of fluoride in the water — just enough to protect our teeth. In 2011, federal health officials offered a new recommended optimal level for water fluoridation: 0.7 parts per million. That's our goal: getting just enough to help all of us keep our teeth longer. |
| <p>Numerous scientific studies and reviews have recognized fluoride as an important nutrient for strong healthy teeth.</p> | <p><i>"Adding fluoride is like forcing people to take medication"</i></p> | <ul style="list-style-type: none"> Fluoride is not a medication. It is a mineral, and when present at the right level, fluoride in drinking water has two beneficial effects: preventing tooth decay and contributing to healthy bones. U.S. court decisions have rejected the argument that fluoride is a "medication" that should not be allowed in water. The American Journal of Public Health summarized one of these rulings, noting that "fluoride is not a medication, but rather a nutrient found naturally in some areas but deficient in others." There are several examples of how everyday products are fortified to enhance the health of Americans — iodine is added to salt, folic acid is added to breads and cereals, and Vitamin D is added to milk. |
| <p>Fluoridation is one of the most cost-effective health strategies ever devised.</p> | <p><i>"Our city council can save money by ending fluoridation of our water system."</i></p> | <ul style="list-style-type: none"> A community that stops fluoridating or never starts this process will find that local residents end up spending <i>more</i> money on decay-related dental problems. Evidence shows that for most cities, every \$1 invested in fluoridation saves \$38 in unnecessary treatment costs. A Texas study confirmed that the state saved \$24 per child, per year in Medicaid expenditures because of the cavities that were prevented by drinking fluoridated water. A Colorado study showed that water fluoridation saved the state nearly \$149 million by avoiding unnecessary treatment costs. The study found that the average savings were roughly \$61 per person. |

| THE TRUTH | OPPONENT'S CLAIM | THE FACTS |
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| <p>Fluoridation is a public health measure where a modest community-wide investment benefits everyone.</p> | <p><i>"Fluoridation is a 'freedom of choice' issue. People should choose when or if they have fluoride in their water."</i></p> | <ul style="list-style-type: none"> Fluoride exists naturally in virtually all water supplies, so it isn't a question of choosing to get fluoride. The only question is whether people receive the optimal level that's documented to prevent tooth decay. It is completely unrealistic to make water fluoridation a person-by-person or household-by-household choice. The cost efficiency comes from a public water system fluoridating its entire supply. Maintaining an optimal amount of fluoride in water is based on the principle that decisions about public health should be based on what is healthy for the entire community, not based on a handful of individuals whose extreme fears are not backed by the scientific evidence. Fluoridation is not a local issue. Every taxpayer in a state pays the price for the dental problems that result from tooth decay. A New York study found that Medicaid enrollees in counties where fluoridation was rare needed 33% more fillings, root canals, and extractions than those in counties where fluoridated water was much more prevalent. |
| <p>Fluoridated water is the best way to protect everyone's teeth from decay.</p> | <p><i>"We already can get fluoride in toothpaste, so we don't need it in our drinking water."</i></p> | <ul style="list-style-type: none"> The benefits from water fluoridation build on those from fluoride in toothpaste. Studies conducted in communities that fluoridated water in the years after fluoride toothpastes were common have shown a lower rate of tooth decay than communities without fluoridated water. The CDC reviewed this question in January 2011. After looking at all the ways we might get fluoride — including fluoride toothpaste — the CDC recommended that communities fluoridate water at 0.7 parts per million. Any less than that puts the health of our teeth at risk. Fluoride toothpaste alone is insufficient, which is why pediatricians and dentists often prescribe fluoride tablets to children living in non-fluoridated areas. |
| <p>Very high fluoride concentrations can lead to a condition called fluorosis. Nearly all fluorosis in the U.S. is mild. This condition does not cause pain, and does not affect the health or function of the teeth.</p> | <p><i>"Fluoridation causes fluorosis, and fluorosis can make teeth brown and pitted."</i></p> <p style="text-align: center;">and</p> <p><i>"One-third of all children now have dental fluorosis."</i></p> | <ul style="list-style-type: none"> Nearly all cases of fluorosis are mild — faint, white specks on teeth — that are usually so subtle that only a dentist will notice this condition. Mild fluorosis does not cause pain, and it does not affect the health or function of the teeth. The pictures of dark pitted teeth that anti-fluoride opponents circulate show <i>severe</i> cases of fluorosis, a condition that is almost unheard of in the U.S. Many of these photos are from India, and the reason is <i>natural</i> fluoride levels over there that are dramatically higher than the level used in the U.S. to fluoridate public water systems. Common sense shows how misleading these photos are. Think about it: Do one-third of the children's teeth you see look brown and pitted? No, they don't. In 2011, the CDC proposed a new level for fluoridation — 0.7 parts per million — that is expected to reduce the likelihood of fluorosis while continuing to protect teeth from decay. |

| THE TRUTH | OPPONENT'S CLAIM | THE FACTS |
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| <p>Getting enough fluoride in childhood will determine the strength of our teeth over our entire lifetime.</p> | <p><i>"Fluoride is especially toxic for small children."</i></p> | <ul style="list-style-type: none"> • According to the American Academy of Pediatrics optimal exposure to fluoride is important to infants and children. The use of fluoride for the prevention and control of cavities is documented to be both safe and effective. • Medical experts disagree with opponents' "toxic" claim. In fact, the American Academy of Family Physicians recommends that parents consider using dietary fluoride supplements for children at risk of tooth decay from ages 6 months through age 16 if their water isn't fluoridated. • Children who drink fluoridated water as their teeth grow will have stronger, more decay resistant teeth over their lifetime. A 2010 study confirmed that the fluoridated water consumed as a young child makes the loss of teeth (due to decay) less likely 40 or 50 years later when that child is a middle-aged adult. |
| <p>Children who swallow toothpaste are at increased risk of mild fluorosis.</p> | <p><i>"There's a warning label on fluoride toothpaste that tells you to 'keep out of reach of children', so fluoride in water must also be a danger."</i></p> | <ul style="list-style-type: none"> • The warning label simply reflects the fact that toothpaste contains roughly 1,000 times as much fluoride per milligram as fluoridated water. Even so, the American Dental Association (ADA) believes the warning label on toothpaste exaggerates the potential for negative health effects from swallowing toothpaste. The ADA has stated that "a child could not absorb enough fluoride from toothpaste to cause a serious problem" and noted that fluoride toothpaste has an "excellent safety record." • Many vitamin labels have similar statements: "Keep out of reach of children." That's because almost anything has the potential for negative health effects if it's left in the hands of unsupervised, young children. |
| <p>Fluoridated water is safe for babies and young children.</p> | <p><i>"Fluoridated water isn't safe to use for babies."</i></p> | <ul style="list-style-type: none"> • The evidence does not support what anti-fluoride groups say. The American Dental Association concludes that "it is safe to use fluoridated water to mix infant formula" and encourages parents to discuss any questions they may have with their dentists and pediatricians. • Although using fluoridated water to prepare infant formula might increase the chance that a child develops dental fluorosis, nearly all instances of fluorosis are a mild, cosmetic condition. Fluorosis nearly always appears as very faint white streaks on teeth. The effect is usually so subtle that only a dentist would notice it during an examination. Mild fluorosis does not cause pain, nor does it affect the function or health of the teeth. • A 2010 study examined the issue of fluorosis and infant formula, and reached the conclusion that "no general recommendations to avoid use of fluoridated water in reconstituting infant formula are warranted." The researchers examined the condition's impact on children and concluded that "the effect of mild fluorosis was not adverse and could even be favorable." |

| THE TRUTH | OPPONENT'S CLAIM | THE FACTS |
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| <p>Although Americans' teeth are healthier than they were several decades ago, many people still suffer from decay — and the overall impact it has on their lives.</p> | <p><i>"Tooth decay is no longer a problem in the United States."</i></p> | <ul style="list-style-type: none"> • Tooth decay is the most common chronic health problem affecting children in the U.S. It is five times more common than asthma. Tooth decay causes problems that often last long into adulthood — affecting kids' ability to sleep, speak, learn and grow into happy and healthy adults. • California children missed 874,000 school days in 2007 due to toothaches or other dental problems. A study of seven Minneapolis-St. Paul hospitals showed that patients made over 10,000 trips to the emergency room because of dental health issues, costing more than \$4.7 million. • Poor dental health worsens a person's future job prospects. A 2008 study showed that people who are missing front teeth are viewed as less intelligent and less desirable by employers. • In a 2008 study of the armed forces, 52% of new recruits were categorized as Class 3 in "dental readiness" — meaning they had oral health problems that needed urgent attention and would delay overseas deployment. |
| <p>Leading health and medical organizations agree: fluoridated water is both safe and effective.</p> | <p><i>"Fluoridation causes cancer and other serious health problems."</i></p> | <ul style="list-style-type: none"> • The American Academy of Family Physicians, the Institute of Medicine and many other respected authorities endorse water fluoridation as safe. The Centers for Disease Control and Prevention reports that "panels of experts from different health and scientific fields have provided strong evidence that water fluoridation is safe and effective." • More than 3,200 studies or reports had been published on the subject of fluoridation. Even after all of this research, the best that anti-fluoride groups can do is to claim that fluoride <i>could</i> cause or <i>may</i> cause one harm or another. They can't go beyond speculating because the evidence simply doesn't back up their fears. • The cancer claim is part of a pattern. According to the American Council on Science and Health, "Historically, anti-fluoride activists have claimed, with no evidence, that fluoridation causes everything from cancer to mental disease." • A 2011 Harvard study found no link between fluoride and bone cancer. This study reviewed hundreds of bone samples, and the study's design was approved by the National Cancer Institute. The study is significant because the National Research Council reported that <i>if</i> there were any type of cancer that fluoride might possibly be linked to, it would probably be bone cancer (because fluoride is drawn to bones). The fact that this Harvard study found no link to bone cancer strengthens confidence that fluoride is unlikely to cause any form of cancer. • Opponents usually cite a 2006 study when they raise the cancer issue, but they omit the fact that the author of this study called it "an exploratory analysis." Instead of measuring the actual fluoride level in bone, this 2006 study relied on estimates of fluoride exposures that could not be confirmed, which undermines the reliability of the data. |

| THE TRUTH | OPPONENT'S CLAIM | THE FACTS |
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| <p>Dozens of studies and more than 60 years of experience have repeatedly shown that fluoridation reduces tooth decay.</p> | <p><i>"Fluoridation doesn't reduce tooth decay."</i></p> | <ul style="list-style-type: none"> • An independent panel of 15 experts from the fields of science and public health reviewed numerous studies and concluded that fluoridation reduces tooth decay by 29%. • An analysis of two similarly sized, adjacent communities in Arkansas showed that residents without access to fluoridated water had twice as many cavities as those with access to fluoridated water. • In New York, Medicaid recipients in less fluoridated counties required 33% more treatments for tooth decay than those in counties where fluoridated water was prevalent. • The benefits of fluoridation are long-lasting. A recent study found young children who consumed fluoridated water were still benefiting from this as adults in their 40s or 50s. • The Centers for Disease Control and Prevention recognizes fluoridation's effectiveness in preventing tooth decay and cited fluoridated drinking water as one of the "10 great public health achievements of the 20th century." • The European Archives of Pediatric Dentistry published an analysis of 59 studies that concluded that "water fluoridation is effective at reducing [decay] in children and adults." |
| <p>Millions of people living in Europe are receiving the benefits of fluoride.</p> | <p><i>"European countries have rejected fluoridation, so why should we fluoridate water?"</i></p> | <ul style="list-style-type: none"> • Europe has used a variety of programs to provide fluoride's benefits to the public. Water fluoridation is one of these programs. Fluoridated water reaches 12 million Europeans, mostly residents of Great Britain, Ireland and Spain. Fluoridated milk programs reach millions of additional Europeans, mostly in Eastern Europe. • Salt fluoridation is the most widely used approach in Europe. In fact, at least 70 million Europeans consume fluoridated salt, and this method of fluoridation reaches most of the population in Germany and Switzerland. These two countries have among the lowest rates of tooth decay in all of Europe. • Italy has not tried to create a national system of water fluoridation, but the main reasons are cultural and geological. First, many Italians regularly drink bottled water. Second, a number of areas in Italy have water supplies with natural fluoride levels that <i>already</i> reach the optimal level that prevents decay. • Technical challenges are a major reason why fluoridated water isn't widespread in Europe. In France and Switzerland, for example, water fluoridation is logistically difficult because of the terrain and because there are tens of thousands of separate sources for drinking water. This is why Western Europe relies more on salt fluoridation, fluoride rinse programs and other means to get fluoride to the public. |

| THE TRUTH | OPPONENT'S CLAIM | THE FACTS |
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| <p>Community water fluoridation is proven to reduce decay, but it isn't the only factor that affects the rate of tooth decay.</p> | <p><i>"There are states with a high rate of water fluoridation that have higher decay rates than states where water fluoridation is less common."</i></p> | <ul style="list-style-type: none"> ◦ Water fluoridation plays a critical role in decay prevention, but other factors also influence decay rates. Researchers often call these factors as "confounding factors." Someone who ignores confounding factors is violating a key scientific principle. A person's income level is a confounding factor in tooth decay because low-income Americans are more at risk for decay than upper-income people. This makes sense because income status shapes how often a person visits a dentist, their diet and nutrition, and other factors. ◦ Comparing different states based solely on fluoridation rates ignores key income differences. For example, West Virginia and Connecticut reach roughly the same percentage of their residents with fluoridated water — 91 percent and 90 percent, respectively. Yet the percentage of West Virginians living below the poverty line is nearly double the percentage of those living in Connecticut. West Virginians are also more likely to get their drinking water from wells, which are not fluoridated to the optimal level. ◦ It's misleading to compare states without considering other, confounding factors. A much more reliable approach is to compare residents of the <i>same</i> state who share similar traits, such as income levels. A 2010 study of New York counties did just this and found that people living in areas with fluoridated water needed fewer fillings and other corrective dental treatments. |
| <p>Community water fluoridation is the most cost-effective way to protect oral health.</p> | <p><i>"There are better ways of delivering fluoride than adding it to water."</i></p> | <ul style="list-style-type: none"> ◦ A 2003 study of fluoridation in Colorado concluded that "even in the current situation of widespread use of fluoride toothpaste," water fluoridation "remains effective and cost saving" at preventing cavities. ◦ Studies conducted in communities that fluoridated water in the years after fluoride toothpastes were widely used have shown a lower rate of tooth decay than communities without fluoridated water. ◦ The co-author of a 2010 study stated that research confirms the "the most effective source of fluoride to be water fluoridation." ◦ Water fluoridation is inexpensive to maintain and saves money down the road. The typical cost of fluoridating a local water system is between 40 cents and \$2.70 per person, per year — less than the cost of medium-sized latte from Starbucks. ◦ For low-income individuals who are at higher risk of dental problems, fluoride rinses are a costly expense, which is why these products are not the "easy" answer that opponents of fluoridation claim they are. |

| THE TRUTH | OPPONENT'S CLAIM | THE FACTS |
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| <p>Water fluoridation has been one of the most thoroughly studied subjects, and the evidence shows it is safe and effective.</p> | <p><i>"The National Research Council's 2006 report said that fluoride can have harmful effects."</i></p> | <ul style="list-style-type: none"> • The NRC raised the possibility of health concerns about areas of the U.S. where the <i>natural</i> fluoride levels in well water or aquifers are unusually high. These natural fluoride levels are two to four times higher than the level used to fluoridate public water systems. • The National Research Council itself explained that its report was <u>not</u> an evaluation of the safety of water fluoridation. • The Centers for Disease Control and Prevention reviewed the NRC report and stated, "The report addresses the safety of high levels of fluoride in water that occur naturally, and does not question the use of lower levels of fluoride to prevent tooth decay." |
| <p>Anti-fluoride groups cite many "studies" that were poorly designed, gathered unreliable data, and were not peer-reviewed by independent scientists.</p> | <p><i>"Studies show that fluoride is linked to lower IQ scores in children."</i></p> | <ul style="list-style-type: none"> • The foreign studies that anti-fluoride activists cite involved fluoride levels that were at least double or triple the level used to fluoridate drinking water in the U.S. It is irresponsible to claim these studies have any real meaning for our situation in the U.S. • British researchers who evaluated these studies from China and other countries found "basic errors." These researchers pointed out that the lower IQs could be traced to other factors, such as arsenic exposure, the burning of high-fluoride coal inside homes and the eating of contaminated grain. |
| <p>Much of the fluoride used to fluoridate public water systems is extracted from phosphate rock.</p> | <p><i>"Fluoride is a by-product from the phosphate fertilizer industry."</i></p> | <ul style="list-style-type: none"> • Much of the fluoride used to fluoridate water is extracted from phosphate rock, and so is phosphoric acid—an ingredient in Coke and Pepsi. After fluoride is extracted from phosphate rock, much of that rock is later used to create fertilizers that will enrich soil. Opponents use this message a lot, maybe because they want to create the false impression that fluoride comes from fertilizer. • Corn produces several useful by-products, including corn oil, cornstarch and corn syrup. Fluoride is one example of many by-products that help to improve the quality of life or health. |

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Community Water Fluoridation: What Opponents Say and Why It Doesn't Hold Up

The Campaign for Dental Health

www.iLikeMyTeeth.org



Many arguments from anti-fluoride activists misrepresent what the research shows. For decades, anti-fluoride activists have tried to link fluoride or fluoridated water to a long list of different health problems—from bone cancer to difficulty losing weight—but without offering solid evidence to back up these accusations.¹ Here are some examples of the misleading or inaccurate statements that anti-fluoride groups make to attack fluoridation's value and safety:

Claim #1

“Fluoride causes cancer.”

The Facts:

For years, opponents have made this argument, but the claim doesn't stand up to the evidence.

- In 2011, a U.S. study found no link between the fluoride and bone cancer.² The design of this study was approved by the National Cancer Institute. The study is also considered very reliable because—unlike previous studies—it examined actual fluoride levels in bone.
- In October 2011, after lengthy review, a committee of California's Office of Environment Health Hazard Assessment voted unanimously that the evidence did not support classifying fluoride as a cancer-causing substance.³

Claim #2

“Fluoridation is harmful because it causes a condition called fluorosis.”

The Facts:

- Nearly all fluorosis in the U.S. is a mild, cosmetic condition that leaves faint white streaks on teeth. It does not cause pain, and it does not affect the health or function of the teeth. It's so subtle that most people with mild fluorosis cannot detect it—only a dentist is likely to notice it.⁴
- Dental fluorosis occurs among some people in all communities, even those that do not fluoridate their local water systems.⁵ For example, there is fluorosis in Norway, a

country that does not fluoridate its public water systems.⁶ Fluorosis occurs when young children consume an excessive amount of fluoride from any source.

- Experts believe that the main reason for fluorosis is that some young children swallow fluoride toothpaste.⁷ Toothpaste contains a concentration of fluoride that is roughly 1,000 times higher than the level in fluoridated water.⁸ This is why parents of children under the age of 6 are advised to supervise their kids' tooth-brushing and apply only a pea-sized amount of toothpaste to the toothbrush.⁹
- Anti-fluoride websites display photos of people with a severe form of fluorosis who live in India and other places to paint an inaccurate picture of fluorosis.¹⁰ These people have severe fluorosis because some water supplies in their countries have extremely high, *natural* levels of fluoride. The fluoride in these water supplies in India are not adjusted down to the level used to fluoridate public water systems in the U.S.

Claim #3

“Fluoride must pose a danger because there’s a warning label on toothpaste.” Anti-fluoride groups claim the existence of this label, required by the Food and Drug Administration (FDA), means that fluoride poses a danger. But here are the facts:

The Facts:

- Every single day, millions of Americans use fluoride toothpaste without any negative effect whatsoever. This warning label simply reflects two facts:
 - The fluoride concentration in toothpaste is roughly 1,000 times higher than that of fluoridated water.
 - Young children’s use of toothpaste should be supervised by a parent.
- The American Dental Association (ADA) believes the warning label on toothpaste exaggerates the potential for negative health effects from swallowing toothpaste. In 1996, the ADA reviewed studies and concluded that “a child could not absorb enough fluoride from toothpaste to cause a serious problem” and added that fluoride toothpaste has an “excellent safety record.”¹¹

Claim #4

“Europe doesn’t engage in fluoridation, so why should we?” This assertion by anti-fluoride activists is misleading because it ignores the fact that these nations use various means to provide fluoride to their citizens:

The Facts:

- Salt fluoridation is widely used in Europe. In fact, at least 70 million Europeans consume fluoridated salt, and this method of fluoridation reaches most of the population in Germany and Switzerland. These two countries have among the lowest rates of tooth

decay in all of Europe.¹² Fluoridated milk programs reach millions of additional Europeans.¹³

- Fluoridated water is provided to 12 million Europeans, mostly reaching residents of Great Britain, Ireland, Spain and other countries.¹⁴
- Italy has not tried to create a national system of water fluoridation, but there are logical reasons for this. First, the drinking of bottled water is well established in Italian culture. Second, a number of areas in Italy have water supplies with natural fluoride levels that already reach the optimal level that prevents decay.¹⁵
- Technical challenges are a major reason why fluoridated water isn't common in Europe. In France and Switzerland, water fluoridation is logistically difficult because there are tens of thousands of separate sources for drinking water. This is why these countries use salt fluoridation, fluoride-rinse programs and other ways to get fluoride to their people.¹⁶

Claim #5

“Fluoride is a by-product from the phosphate fertilizer industry.” Opponents use this misleading message to associate fluoride with fertilizer.

The Facts:

- Fluoride is extracted from phosphate rock, and so is phosphoric acid—an ingredient in Coke and Pepsi. Neither one of them comes from fertilizer.
- Fluoride is extracted from the same phosphate rock that is later used to create fertilizers that will enrich soil. This is accomplished through an efficient process, and opponents are wrong to suggest that fluoride “comes from fertilizer.”
- The quality and safety of fluoride additives are ensured by Standard 60, a program commissioned by the Environmental Protection Agency (EPA). Standard 60 is a set of standards created and monitored by an independent committee of health experts. This committee provides regular reports to the EPA. More than 80 percent of fluoride additives are produced by U.S. companies, but no matter where they come from, Standard 60 uses on-site inspections and even surprise “spot checks” to confirm the additives meet quality and safety standards.¹⁷

Claim #6

“The National Research Council said that fluoride can have harmful effects.” Opponents point to the NRC's 2006 report on fluoride as a reason to fear water fluoridation, but they are misrepresenting this report.

The Facts:

- The NRC raised the possibility of health concerns in U.S. communities where the *natural* fluoride levels in well water or aquifers are unusually high. These natural fluoride levels are dramatically higher than the level used to fluoridate public water systems.

- The National Research Council itself explained that its report was not an evaluation of water fluoridation.¹⁸

Claim #7

“There are highly fluoridated states that have higher decay rates than states where fluoridation is less common.” Opponents sometimes compare different states’ fluoridation rates and try to present this as proof that fluoridation doesn’t reduce tooth decay.

The Facts:

- This is an example of junk-science, and here’s why. Water fluoridation is a key factor in decay prevention, but other factors also influence decay rates. Research confirms that low-income people are more at risk for decay than upper income Americans.¹⁹ This makes sense because income status shapes how often a person visits a dentist, their diet and nutrition, and other factors.
- Comparing different states based solely on fluoridation rates ignores some key income differences. For example, West Virginia and Connecticut reach roughly the same percentage of their residents with fluoridated water—91 percent and 90 percent, respectively. Yet the percentage of West Virginians living below the poverty line is nearly double the percentage of those living in Connecticut.²⁰ West Virginians are also more likely to get their drinking water from wells, which are not fluoridated to the optimal level. This is why it’s misleading to do these apples-and-oranges comparisons.
- A more reliable comparison would examine decay-related problems of people from within the *same* state and the *same* income group. A 2010 New York study did precisely this—comparing Medicaid enrollees in counties where fluoridation was prevalent to enrollees in counties where most communities were not fluoridated. The study found that residents of counties where fluoridated water was rare needed 33 percent more fillings, root canals and extractions than those in counties where fluoridated water was common.²¹

Claim #8

“There’s a link between fluoride and lower IQ scores.” Anti-fluoride activists have raised concerns about this, but their argument is based on junk science—flawed studies that were conducted in China and other countries.

The Facts:

- British researchers who evaluated these IQ studies found “basic errors” and wrote that different data were combined in a way “that does not give a valid or meaningful result.”²²
- These Chinese studies failed to rule out other factors, including arsenic exposure, the burning of high-fluoride coal inside homes and the eating of contaminated grain.²³

- Most of the foreign studies cited by anti-fluoride activists involved fluoride levels in drinking water that were more than triple the level recommended for fluoridation in the U.S.²⁴

Claim #9

“The government has never conducted a randomized, control study of fluoridation.”

The Facts:

- Fluoride has been shown to be effective in randomized clinical trials of toothpaste, tablets, and varnish. However, it would be virtually impossible to do such a study for *fluoridation*, and here’s why. A randomized study for fluoridation would require a community to be divided into two groups, and the homes of residents would be assigned randomly to one group or the other. Piping fluoridated water into one home of residents while piping *non*-fluoridated water into the home next door would be logistically impossible.
- Even if it were possible to conduct this kind of randomized study, involving children in such a study could raise ethical concerns because it means one group of kids would be deprived of fluoridated water.
- Numerous clinical studies have proven that fluoridated water protects teeth. Within the past two years alone, studies from Nevada, New York and Alaska have added to the overwhelming evidence that fluoridated water protects teeth from decay.

Claim #10

“Fluoride can harm plants and animals that live in the wild.”

The Facts:

- The fluoride level in a fluoridated water system is not high enough to harm any plant or animal species.²⁵
- Anti-fluoride groups claim that runoff from fluoridated water can harm fish. But research shows that this runoff does not cause any harm to salmon.²⁶ In fact, sea water—where salmon and other fish spend most of their lives—contains a concentration of fluoride that is 80 percent higher than the level recommended for fluoridation.²⁷
- There is no evidence that fluoridated water has a negative effect on plants, gardens or lawns, or plants.²⁸ Research shows that even high levels of fluoride do not have a toxic effect on plants in ponds.²⁹

More examples of anti-fluoride groups misrepresenting the evidence:

- **The Fluoride Action Network (FAN)** cites the incidence of fluorosis in India and other nations to raise concern about water fluoridation, but FAN neglects to inform readers that the cause of this condition is *not* fluoridated water.³⁰ In fact, water fluoridation is virtually unheard of in India.³¹ The problem is that several regions of India have geological conditions that make the *natural* fluoride levels between four and 15 times higher than the level used to fluoridate water in the U.S.³² This important distinction explains why the director of India's Institute of Public Health has publicly endorsed water fluoridation.³³
- **Citizens for Safe Drinking Water (NoFluoride.com)** has posted anti-fluoridation quotes on its website, claiming that these statements "are made by the top medical authorities ... based on the latest medical research." But several of these quotes are more than 40 years old and, therefore, are *not* based on the latest research. The group cites a quote from an American Medical Association leader who was AMA's president in the 1930s—many years before fluoridation was first tried in the U.S.³⁴ The American Medical Association has endorsed fluoridation as an effective public health strategy.³⁵
- **The New York State Coalition Opposed to Fluoridation (NYSCOF)** has described fluorosis as "fluoride-ruined teeth," ignoring the fact that nearly all fluorosis in the U.S. is a mild, cosmetic condition that doesn't affect the health or function of the teeth.³⁶ NYSCOF also cites bizarre case studies that have nothing to do with Americans drinking fluoridated water. For example:
 - In 2010, NYSCOF cited the case of a 53-year-old British woman in a Facebook post headlined: "Fluoride Damages Bones, Studies Show." But unless people read the full article, they would never learn what a bizarre lifestyle this woman had—drinking six cups of high-fluoride "brick tea" and brushing her teeth 8-10 times each day.³⁷ Ordinary Americans do not drink that type of tea, and they do not brush their teeth every two hours they're awake. Presenting this woman's case as a reason to fear water fluoridation in the U.S. is misleading.³⁸
 - In 2009, NYSCOF posted a press statement in which its president said that "even water fluoridation will cause arthritic-like symptoms in susceptible individuals ..."³⁹ However, the group provided no evidence connecting fluoridated water to arthritis. One of the articles that the group cited to back up its arthritis claim was from a French medical journal. The article described a peculiar case study that has nothing to do with drinking fluoridated water. This French case study was about a woman who brushed her teeth 18 times a day and swallowed the toothpaste—consuming a tube of toothpaste every two days.⁴⁰ It's irresponsible to attack water fluoridation with far-fetched examples like this.

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²² Independent critical appraisal of selected studies reporting an association between fluoride in drinking water and IQ," Bazian, (February 11, 2009), 3.

²³ Independent critical appraisal of selected studies reporting an association between fluoride in drinking water and IQ," Bazian, (February 11, 2009), 3-5.

²⁴ Independent critical appraisal of selected studies reporting an association between fluoride in drinking water and IQ," Bazian, (February 11, 2009), 48-49.

²⁵ H.F. Pollick, "Water Fluoridation and the Environment: Current Perspective in the United States," *International Journal of Occupational and Environmental Health*, (2004), Vol. 10, 343-350, <http://www.cdc.gov/fluoridation/pdf/pollick.pdf>.

²⁶ H.F. Pollick, 2004.

²⁷ "Fluoride in Drinking-water: Background document for development of WHO Guidelines for Drinking-water Quality," World Health Organization, 2004, 2, http://www.who.int/water_sanitation_health/dwq/chemicals/fluoride.pdf, accessed on January 20, 2012.

²⁸ H.F. Pollick, 2004.

²⁹ A. Kudo and J.P. Garrec, "Accidental release of fluoride into experimental pond and accumulation in sediments, plants, algae, mollusks and fish," *Regulatory Toxicology and Pharmacology*, (September 1983), Vol. 3, No. 3, 189-198, <http://www.ncbi.nlm.nih.gov/pubmed/6635267#>.

³⁰ "Skeletal Fluorosis: New Reports from India," Fluoride Action Network, <http://www.fluoridealert.org/fluorosis-india.htm>, accessed November 2, 2011.

³¹ See Tables 1 and 2 that list the countries with laws or policies to fluoride-adjust their public water systems. M.A. Lennon et al., "Fluoride: Rolling Revision of the WHO Guidelines for Drinking-Water Quality," draft report, World Health Organization, (September 2004), http://www.who.int/water_sanitation_health/dwq/nutfluoride.pdf.

³² Groundwater samples in India have detectable, natural fluoride levels ranging from 5 to 23 milligrams per liter. See Box 2 in: "Water Sanitation and Health (WSH): Fluoride," World Health Organization, http://www.who.int/water_sanitation_health/naturalhazards/en/index2.html, accessed October 25, 2011.

³³ S.S. Ramachandra et al., "Need for community water fluoridation in areas with suboptimal fluoride levels in India," *Perspectives in Public Health*, (September 2010), Vol. 130, No. 5, 211-212.

³⁴ "Respected medical professionals and scientists are warning of long-term health consequences," Citizens for Safe Drinking Water, <http://www.nofluoride.com/>, accessed October 27, 2011.

³⁵ American Medical Association, "Policy H440.945: Fluoride Content of Municipal Water Supplies," reaffirmed in 2001, <http://www.ama-assn.org/ama/pub/physician-resources/clinical-practice-improvement/clinical-quality/accreditation-collaboration/ada-council.page>, accessed February 16, 2012.

³⁶ "Top 20 Fluoride News Stories of 2011," press release by the New York State Coalition Opposed to Fluoridation, February 1, 2012, <http://www.prnewswire.com/news-releases/top-20-fluoride-news-stories-of-2011-138488989.html>, accessed March 14, 2012.

³⁷ It is reasonable to conclude that this British woman had consumed brick tea because the fluoride level reported in the tea is only reached by brick tea; the level reported (7.6 mg/L) is more than triple the fluoride levels found in green, black and oolong teas. See: "Tea," Micronutrient Information Center, The Linus Pauling Institute (Oregon State University), <http://lpi.oregonstate.edu/infocenter/phytochemicals/tea/>, accessed October 26, 2011.

³⁸ "Fluoride Damages Bones, Studies Show," a Facebook post by the New York State Coalition Opposed to Fluoridation, (November 1, 2010), <http://www.facebook.com/topic.php?uid=252199261811&topic=16302>, accessed October 5, 2011.

³⁹ "Fluoride Linked to Arthritis, Study Shows," a press statement by the New York State Coalition Opposed to Fluoridation, (August 26, 2009), <http://voices.yahoo.com/fluoride-linked-arthritis-study-shows-4139607.html?cat=5>.

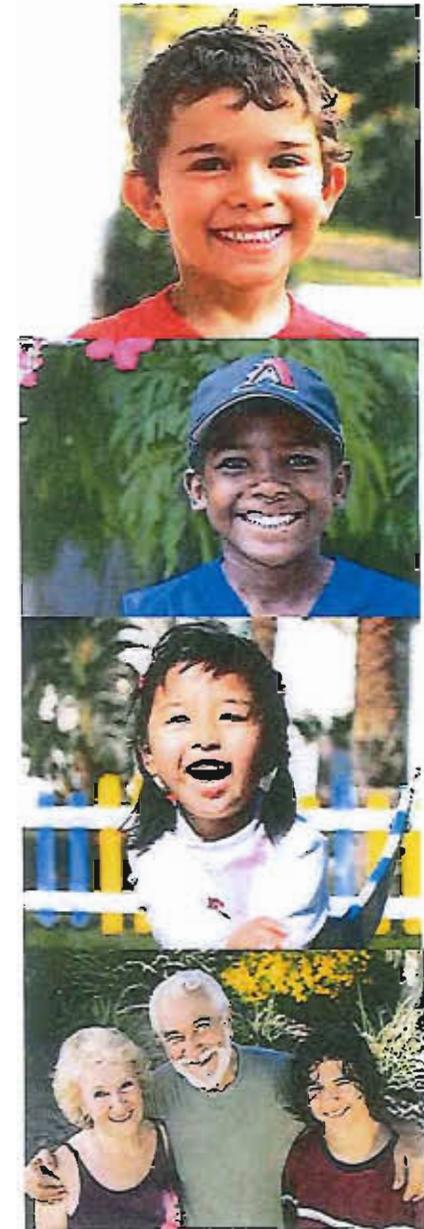
⁴⁰ J. Roos, A. Dumolard et al., "Osteofluorosis caused by excess use of toothpaste," *Presse Médicale* (France), (Nov 19, 2005), Vol. 34, No. 20, Part 1, 1518-20, <http://www.ncbi.nlm.nih.gov/pubmed/16301964?dopt=AbstractPlus>.



Dr. Eli Schwarz
Professor and Chair,
Dept. of Community Dentistry,
OHSU

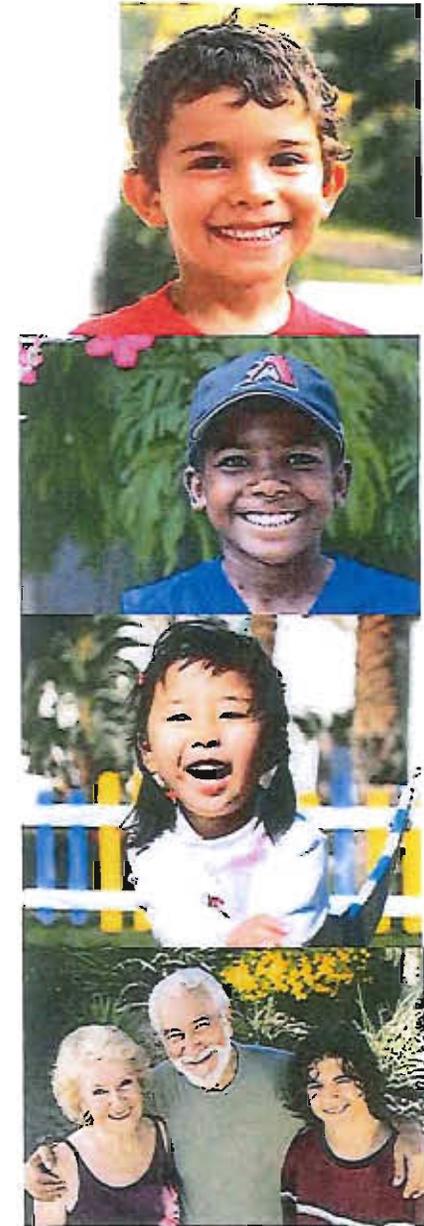
HOW FLUORIDE WORKS

- Combines with phosphate and calcium to create a strong barrier to protect teeth from cavities
- Remineralizes tooth enamel to build a strong, cavity-resistant outer surface
- Decreases bacterial activity in the mouth



HOW FLUORIDE WORKS

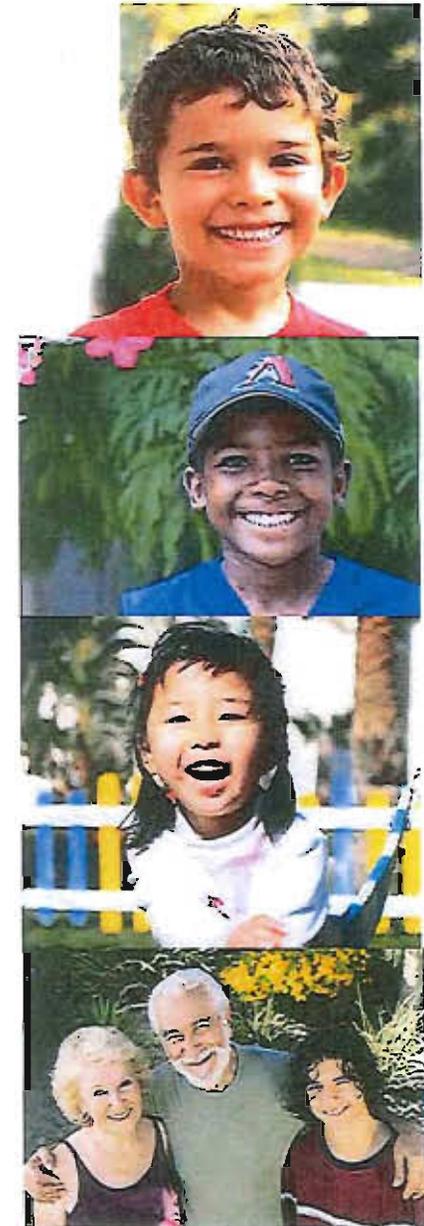
- Greatest protection is available when children's teeth are developing, but it's beneficial for people of all ages
- Creates a strong tooth surface that resists decay over a lifetime
- Fluoride is most effective when ingested in small amounts throughout the day
- Fluoride prevents decay before it happens, thereby saving money and hardship in costly dental treatment



REDUCES DENTAL DECAY BY AT LEAST 25%

More than 100 studies have demonstrated the effectiveness of optimal fluoridation of community water.

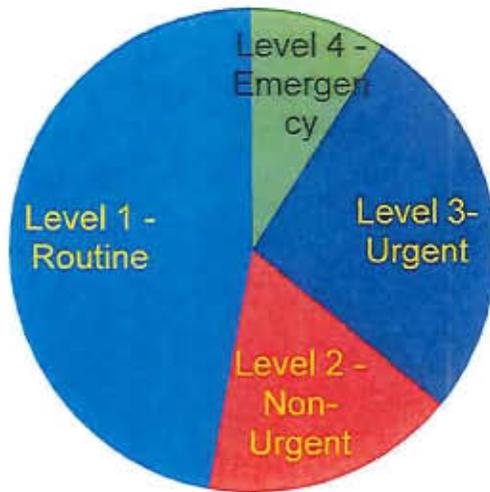
- 2011 Alaska – 32% less dental decay
- 2010 New York – 33% less dental decay
- 2010 Australia – 32% less dental decay
- 2004 Ireland – 32% less dental decay



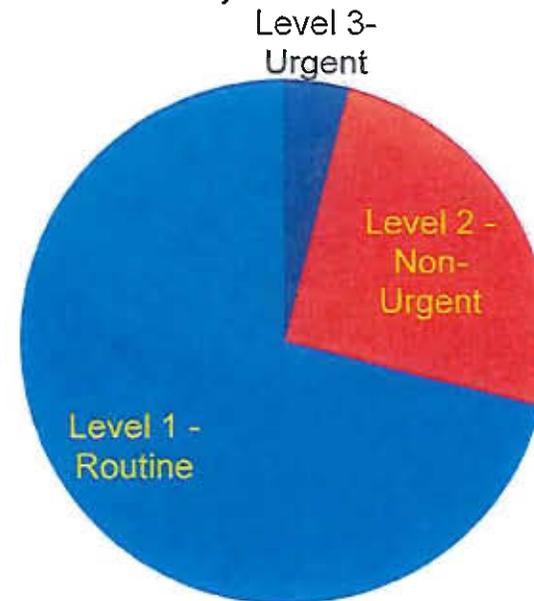
DENTAL NEEDS IN HEAD START CHILDREN

NON-FLUORIDATED AND FLUORIDATED COMMUNITIES, OREGON

**Non-Fluoridated
Oakridge, Lane County**



**Fluoridated
Florence, Lane County**



2004 Hospital Charges for Severe Cavities

The Dalles

Hood River (No F⁻)

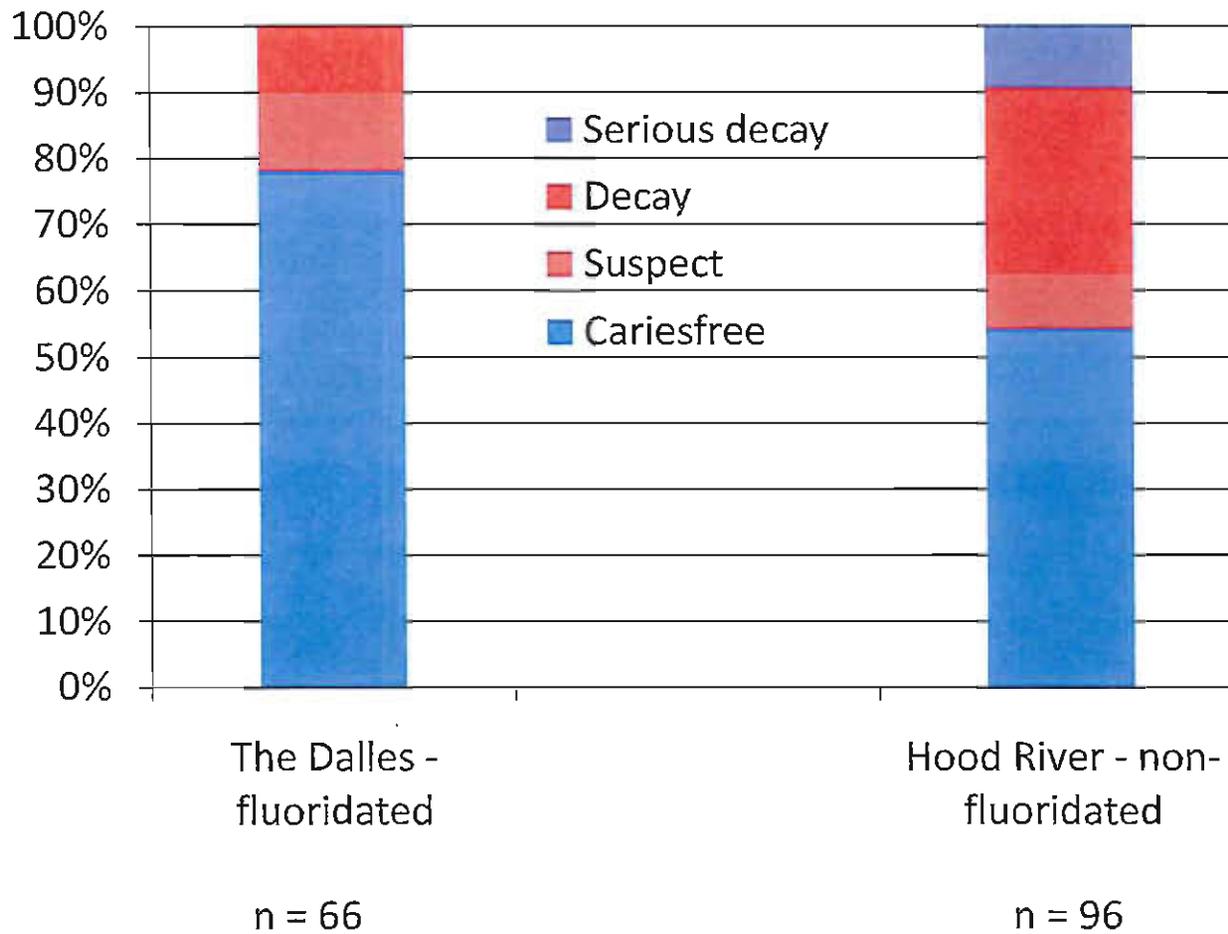
\$47,561

\$159,613



Hospital billings for operating room treatment of severe cavities in 2004 adjusted for population were 70% less in fluoridated The Dalles compared to non-fluoridated Hood River. 45% of Medicaid costs for pediatric dental services are from operations under general anesthesia for severe cavities.

HOW FLUORIDE WORKS



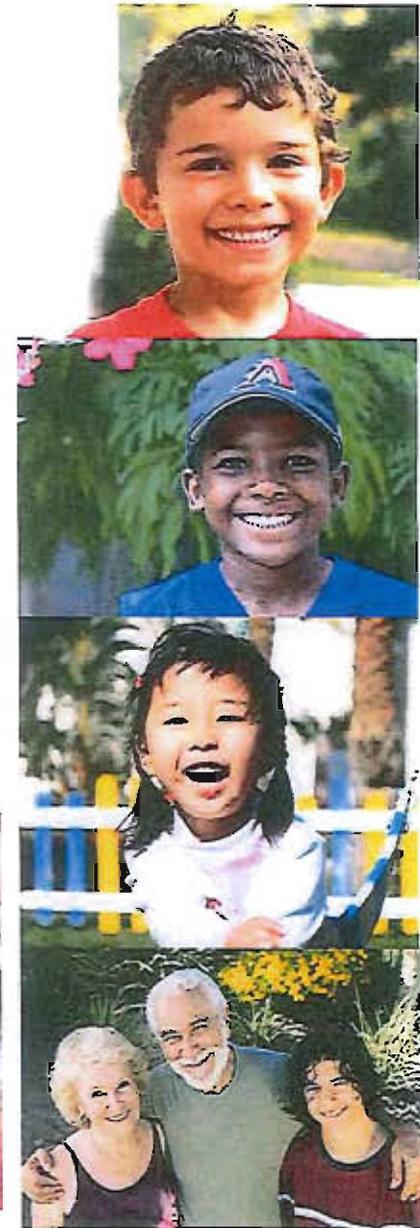
Head start data, 2005

MILD DENTAL FLUOROSIS IS NOT A HEALTH CONCERN

- Dental fluorosis is a change in the appearance of the teeth caused by intake of higher than optimal amounts of fluoride during tooth formation. In the U.S most is very mild or mild.
- Mild fluorosis is a barely noticeable cosmetic condition with no known adverse health effects.
- National Research Council report (2006) concluded that the potential for adverse effects from fluoride at 2 – 4 mg/L in drinking water do not apply at the lower water fluoride levels commonly experienced by most U.S citizens.



VS.



MORE EFFECTIVE THAN ANY ALTERNATIVE

- Access: Financial Barrier
- Gaps in school-based dental programs
 - Don't reach kids during the critical period before age 5
 - Fluoride intake inadequate during the summer, weekends and when parents fail to fill out paperwork to enroll kids
- Regular dental care is important, but aimed at treating cavities, not preventing them

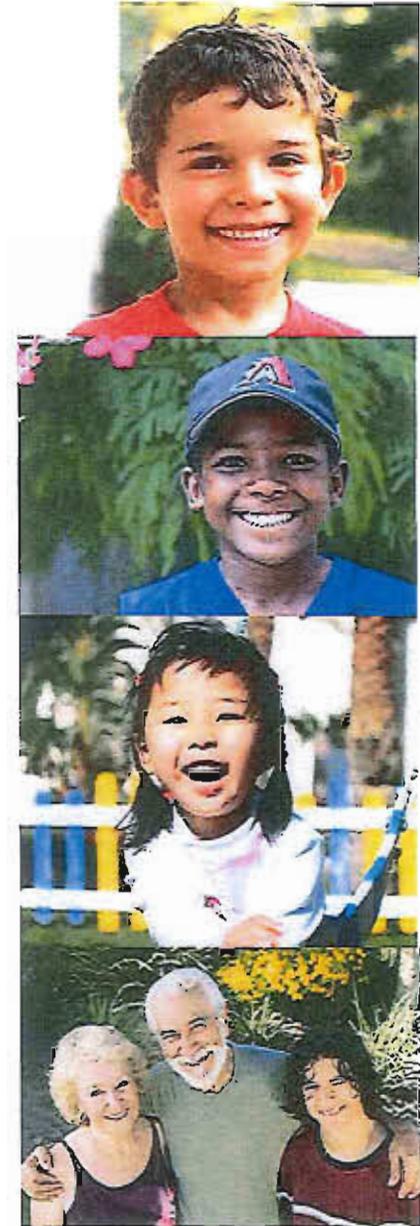


Exhibit 9

Nolan Young
City Manager
The Dalles City Hall
313 Court St.
The Dalles, Or. 97058

Dear Sir,

This letter is in regard to my appearance in the audience participation portion of the counsel meeting last Monday night the 11th of February 2013. My hope is to get a response from the City regarding the removal of fluoride from City drinking water or to have the issue placed on a future meeting agenda for further consideration.

I don't know quite where to start with the process of an action to remove fluoride from The Dalles water treatment process. I would like to begin by stating that I am aware as I am sure you are of the huge controversy surrounding the health benefit or risk of municipal drinking water fluoridation. Other controversial issues might include to what degree should government be involved in mandating or administering health products, medications, supplements and the like. Questions arise concerning how much if any benefit is derived from the systemic ingestion of fluoride? And even if there are benefits relating to dental health by the changing of tooth structure what are the risks involved of changing bone or other tissue structure? Most of the argument for systemic treatment such as the ingestion of fluoride in drinking water as apposed to topical treatment such as fluoridated tooth paste is directed toward the benefit of protecting tooth integrity but little to no consideration is given to the risk involved outside the scope of dental care.

Water fluoridation also appears to be in violation to pharmacological principals, by which medications should be assessed on an individual basis. I am not convinced that an accumulation of fluoride residuals will not build toward teeth and bone weakness and impede gland function. The amount assimilated would vary according to the individuals age, size, weight and the amount of water required for an active or inactive person on any given day or circumstance taking into consideration the weather and intensity of activity. Other factors to consider should be from what other sources might the individual acquire fluoride? Perhaps from toothpaste or mouthwash or foods processed in treated water? Just the fact that there is widespread controversy and opposition should be enough to warrant a critical look at a practice that may or may not be beneficial and be it that an individual deems the ingestion of fluoride beneficial, he has an abundant source of obtaining personal treatment. With treatment so readily available why should his financial or health considerations over rule the health considerations of another and why would the city want to make a health judgment in preference to the fluoride advocate? Should health products be dispensed through the public water supply is my question? Isn't pure clean water enough? That is all I require.

I will include articles supporting my position but in order to truly appreciate the extent of the controversy much research is required on both sides of the issue. Believe me, I know how time consuming and tedious this can be but I would encourage The City Council to investigate the matter; especially given the fact that by allowing fluoridation The City of The Dalles becomes an advocate of fluoride treatment and the responsible party in it's administration. If not having already done so, it just seems right that each member should study and know what they are advocating and administering.

I bring this issue up because I care for my health and for the health of my neighbors and for the community. Like all advocates for removal of fluoride, I gain nothing financial nor do I have a

repetition of professional pride to defend. I am not selling anything and I am willing and able to change my position if need be.

Sincerely,

Robert Boyet
P.O. Box 762
1201 East 1st. St.
The Dalles, Oregon
97058

Introduction

Water fluoridation is the addition of a fluoride chemical to the water supply for the purpose of reducing tooth decay. This is the only chemical added to the drinking water to treat a disease. All the other chemicals added are used to make the water safe or more palatable to drink.

Approximately 30 countries have some cities drinking fluoridated water, yet only eight have more than 50% of their population doing so (Australia, Columbia, Ireland, Israel, Malaysia, New Zealand, Singapore, and the United States).

Fluoridation Gamble Fails the Test of Time

by Paul Connett, PhD

"(Fluoridation) is against all principles of modern pharmacology, it is really obsolete. No doubt about that. I mean, I think those nations that continue to do so should feel ashamed of themselves. It's against science."

—Arvid Carlsson, PhD, Nobel Prize winner for medicine in 1956

A little history

Water fluoridation began in the United States where today approximately 184 million people are currently served by fluoridated water supplies.

The practice had its origins in observations made by researchers who were investigating the cause of a strange mottling and discoloration of the teeth in children living in parts of Colorado, Texas, and some other areas in the US.

In 1931, fluoride was found to be the cause of this condition and it was renamed "dental fluorosis."

McKay, a dentist, and other researchers, noted that while the teeth looked horrible, these children had less tooth decay. These early researchers assumed that because fluoride mottled teeth it must also be the reason these teeth didn't decay. However, they overlooked high amounts of calcium and other tooth-building nutrients in the water. They didn't know what we know now - fluoride is neither a nutrient nor required for healthy teeth.

H. Trendley Dean of the US Public Health Service (PHS) pursued the matter. He characterized dental fluorosis into 4 levels of severity - very mild, mild, moderate and severe. Then in 1942 he produced his famous 21-City study that purported to show, that as the fluoride in the water increased, tooth decay went down. The decay decreased sharply from 0 to 1 ppm (1 ppm = 1 milligram of fluoride per liter) and then flattened off (see Figure 1). He also noted that at 1 ppm only about 10% of children were impacted with dental fluorosis. Thus was born the notion of the "optimal" level of fluoride being 1 ppm.

Trials of artificial fluoridation began in 1945 in Grand Rapids, Michigan, Newburgh, NY, and Brantford, Ontario, using water-soluble sodium fluoride (not the naturally occurring calcium fluoride).

The Great Fluoridation Gamble

In 1950, before any of these trials had been completed, the PHS endorsed fluoridation. By so doing, they were taking a huge gamble on four fronts, 1) that swallowing fluoride actually reduced tooth decay, 2) that it would only lead to about 10% of children developing dental fluorosis in its mildest form, 3) that when a child developed dental fluorosis, no damage was being done to any other growing tissue in its body and 4) that fluoride would have no ill effect on adults.

This clearly was not a scientific decision, because the science wasn't in, since neither the trials nor any health studies had been completed.

What the PHS did know was that dental fluorosis was a systemic effect, meaning that fluoride had to enter the body to cause the

damage to the growing tooth cells. Thus the key gamble made by the PHS in 1950 was that fluoride could damage the child's growing tooth cells, by some undetermined biochemical mechanism, without damaging any other growing tissues or organs in the child's body.

The great fluoridation gamble has failed

Over the 60 years since fluoridation began, dental fluorosis rates in the US have skyrocketed. A recent report shows that 32% of children in the US now have dental fluorosis, and not all restricted to the very mild level category. 3-4% have dental fluorosis in its moderate and severe levels. (CDC, 2005). This is due to more sources of fluoride available today (toothpaste and other dental products; pesticide residues and processed food and beverages made produced in fluoridated areas).

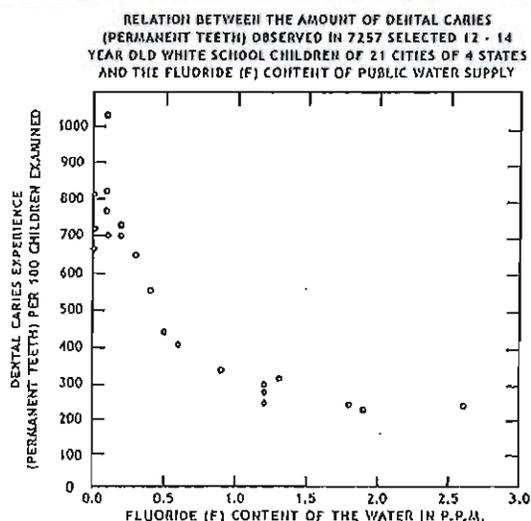
Starting in the 1980's, studies have shown little, if any, difference in tooth decay between fluoridated and non-fluoridated communities, states or countries. According to a review by Dr. David Locker of the University of Toronto, conducted for the Ontario Government:

"The magnitude of (fluoridation's) effect is not large in absolute terms, is often not statistically significant, and may not be of clinical significance."

A recent article in the British Medical Journal shows that, according to World Health Organization (WHO) data, tooth decay in 12-year olds has been coming down as fast in non-fluoridated countries as fluoridated ones (Cheng et al., 2007). A similar plot is shown in Figure 2. Furthermore, the early trials have been shown to be riddled with methodological weaknesses (Sutton, 1996), and the findings of Dean's 21-city study have been seriously questioned (Ziegelbecker, 1981).

Most serious is the growing body of evidence that fluoridation is harmful to health. Fluoride accumulates in the bones and the first symptoms of damage are identical to the symptoms of arthritis: aching joints and bones. Further accumulation makes the bones more brittle and may lead to a possible increase in hip fractures in the elderly. The

FIGURE 1. The great fluoridation gamble. PHS 21-city study. As water fluoride levels increased, tooth decay went down. The decay decreased sharply from 0 to 1 ppm (1 ppm = 1 milligram of fluoride per liter) and then flattened off (see Figure 1). He also noted that at 1 ppm only about 10% of children were impacted with dental fluorosis. Thus was born the notion of the "optimal" level of fluoride being 1 ppm.



Fluoridation Gamble

evidence for this is mixed.

Fluoride was once used by European doctors to lower the thyroid function of patients suffering from hyperthyroidism and the doses used are reached by some individuals in fluoridated communities. In the US, millions of people suffer from hypothyroidism, and even more with sub-clinical hypothyroidism, for which the symptoms are tiredness not relieved with sleep, lethargy, obesity, and depression.

There are over 50 animal studies that show that fluoride damages the brain and changes behavior. Studies from China indicate that fluoride damages the fetal brain and there are now a total of 23 studies (from China, India, Iran and Mexico) indicating that high fluoride exposure is associated with a lowering of IQ in children.

If you don't look, you don't find

For over 60 years, those who have jealousy guarded the practice of fluoridation in the PHS have failed to fund serious health studies. The vast majority of research money goes into endless studies on teeth (see CARTOON), as if it was the only organ in the body. No studies have investigated a possible relationship between fluoridation and the numerous illnesses and impacts discussed above, which affect millions of Americans and at increasing rates, even though fluoride exposure may be one contributory cause.

Even the most basic studies have not been done. For example, no comprehensive survey of fluoride bone levels has been undertaken to see if some people are reaching damaging levels. Nor has there been a monitoring program of fluoride levels in people's blood and urine. More seriously, studies have not been done on a number of childhood conditions using the severity of dental fluorosis as a biomarker of exposure.

All of these failures to do the obvious allow fluoridation promoters to say, "We have been fluoridating the water for over 60 years and we don't see any health problems", yet if you don't look, you don't find.

Where studies have been done, they have been done largely in countries that do not have a fluoridation program to protect, especially India and China, where there are large areas that have high natural levels of fluoride in the water and are endemic for both dental and skeletal fluorosis. For many years, the US has ignored these studies, claiming that they are not relevant here, because people in these countries drink excessive amounts of water because of the hot climates and have a poor diet, which exacerbates fluoride's toxicity.

A reason why many Western academics have remained oblivious of these health effects is because *Fluoride*, the journal of the International Society for Fluoride Research, which has published many important studies, has been excluded from PubMed (the primary medical literature search engine) since the journal began publishing in 1968. Why such a journal, which has peer review, carries no advertising and publishes articles both for and against fluoridation, should be excluded from this important search engine is both puzzling and

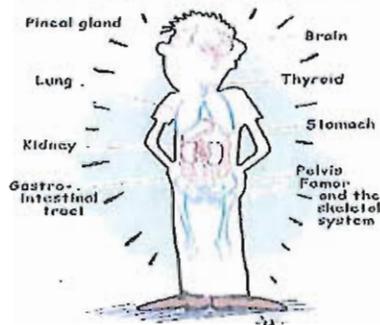
How we see our selves



How fluoridation promoters see us



How fluoridation opponents see us



disturbing. Especially so, when PubMed includes dental trade journals and popular magazines of no academic standing.

Instead of conducting health studies in fluoridated countries, the health issue is usually resolved with review panels made up of government employees and supporters of the fluoridation program. Their conclusions about the safety and effectiveness of fluoridation are predictable. The Irish Fluoridation Forum Report of 2002 is a classic example.

The scientific breakthrough

The scientific breakthrough came in 2003, when at the request of the US EPA, the National Research Council (of the National Academies) reviewed the toxicology of fluoride in water. For the first time in reviews of this kind, the 12-membered panel was truly balanced. Their brief was not to look at the safety of fluoridation per se, but rather to examine the safety of the drinking water standard for fluoride, currently set at 4 ppm. It took the panel three and half years to complete their report and when it was published on March 22, 2006, it was 507 pages long and had over 1000 references.

The panel concluded that the safe drinking water standard for fluoride (4 ppm) was not protective of health and recommended that the US EPA perform a health risk assessment to determine a new MCLG (maximum contaminant level goal). The MCLG is a goal based on the lowest adverse effect level, with safety factors applied to protect the most vulnerable individuals in society from known and reasonably anticipated health effects. The MCL is a legally enforceable standard and takes into account the economic costs of removing a pollutant.

Re-enter the politics

Risk assessment specialist Dr. Robert Carton, a former employee of the EPA, has examined the findings of the review panel and argues that the MCLG should be set at zero (Carton, 2006). However, were the EPA to set the MCLG at zero, it would scuttle the fluoridation program overnight. This may explain why after 33 months the EPA has published nothing. This delay appears to be one of many examples of where politics trumps science on this issue.

More politics were revealed by the manner in which the leading proponents of fluoridation treated the NRC report. On the day it was released, the American Dental Association (ADA) declared that the report was irrelevant to fluoridation and six days later, the Centers for Disease Control and Prevention (CDC) declared that it "was consistent" with its promotion of fluoridation at 1 ppm.

In those six days, the CDC did not have time to digest this report, let alone the 1000 references it contained. Nor could it have done the risk assessment recommended by the NRC – a task that has already taken the EPA nearly three years.

All of this may seem very puzzling to someone new to this issue, until they find out just which people at the CDC reached such a rapid conclusion.

The CDC's Oral Health Division

The CDC has only one division that deals with fluoridation. This is the Oral Health Division (OHD), which is largely staffed by people with dental credentials. They have few staff with expertise in medicine and no toxicologists and risk assessment specialists. In short, they have no one qualified to make the judgment they made. Moreover, there is no one at the CDC—independent of the OHD—overseeing the safety of the fluoridation program.

The OHD has a huge conflict of interest in this matter. They avidly promote fluoridation. They give awards to communities and states based upon their adoption of the practice. They even send out their top personnel to state legislatures to support mandatory statewide fluoridation bills. To all intents and purposes the OHD is an adjunct of the ADA.

Most members of the public and the media know little of this background, so when the CDC makes pronouncements about the "safety and effectiveness" of fluoridation, journalists and officials take it at face value. Not a day goes by without someone in the world citing the CDC's statement that fluoridation is "One of the top ten public health achievements of the 20th Century" (CDC, 1999). Those that cite this probably have no idea how incredibly poor the analysis was that supported this statement. The report was not externally peer reviewed, was six years out of date on health studies and the graphical evidence it offered to support the effectiveness of fluoridation was laughable and easily refuted by examining the WHO data base, compare FIGURES 2 and 3.

The publication of the NRC (2006) report should have ended fluoridation overnight. Among other things, the review showed how little serious research had been carried out in fluoridated countries. This is what the chairman of the panel, Dr. John Doull, had to say:

"What the committee found is that we've gone with the status quo regarding fluoride for many years—for too long, and now we need to take a fresh look...In the scientific community, people tend to think this is settled. I mean, when the U.S. surgeon general comes out and says this is one of the 10 greatest achievements of the 20th century, that's a hard hurdle to get over. But when we looked at the studies that have been done, we found that many of these questions are unsettled and we have much less information than we should, considering how long this [fluoridation] has been going on." (Scientific American, Jan. 2008)

Based upon the levels at which health effects occur, there is simply not an adequate margin to protect every individual in society drinking uncontrolled amounts of fluoridated water, especially vulnerable subsets of the population. The ADA has virtually admitted as much by advising parents not to use fluoridated tap water to make up baby formula (ADA, 2006).

Other reasons for ending fluoridation

There have been other moments that should have ended fluoridation. One of these was the concession by the CDC in 1999, that the promoters had got the mechanism of fluoride's beneficial action wrong for over 50 years. They now admit that fluoride works topically, not systemically. In other words, it works on the outside of the tooth, not from inside the body. It simply does not make sense to swallow fluoride. In a videotaped interview in 2005, Dr. Arvid Carlsson, who

led the successful fight against fluoridation in Sweden in the 1970s and was awarded the Nobel Prize for Medicine in 2000, stated that:

"In pharmacology, if the effect is local (topical), it's awkward to use it in any other way than as a local treatment. I mean this is obvious. You have the teeth there, they're available for you, why drink the stuff?"

There are three other important reasons why fluoridation should be ended.

1 • Fluoridation is bad medical practice.

While it is possible to control the concentration (mg per liter) of the fluoride added at the water works, it is impossible to control the dose (mg per day) individuals get, because it is impossible to control how much people drink and how much fluoride they get from other sources.

Fluoridation defies many aspects of medical practice. As Dr. Peter Mansfield, a physician and advisory board member for the important York Review (McDonagh et al., 2000), stated:

"No physician in his right senses would prescribe for a person he has never met, whose medical history he does not know, a substance which

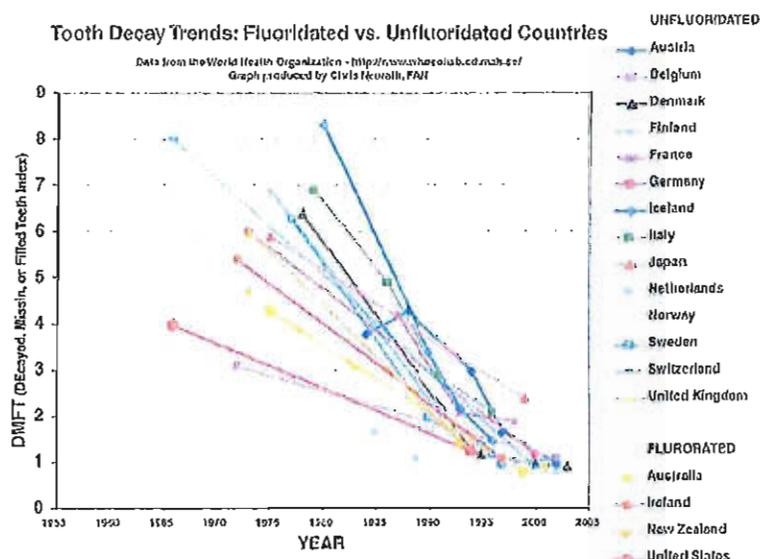


FIGURE 2. Tooth decay coming down in various countries over the period 1960 to 2000.

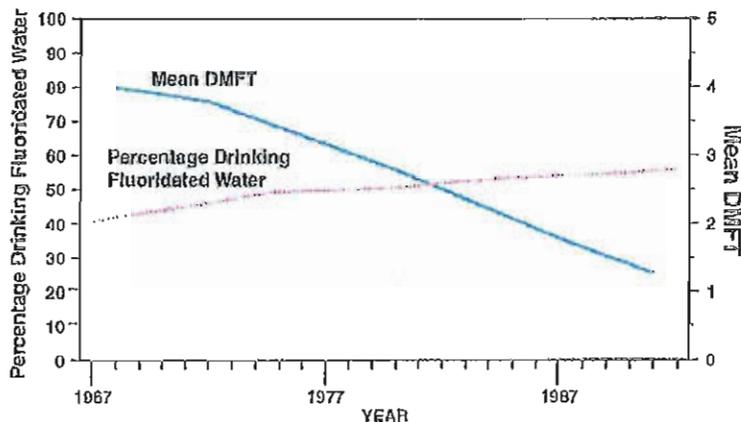
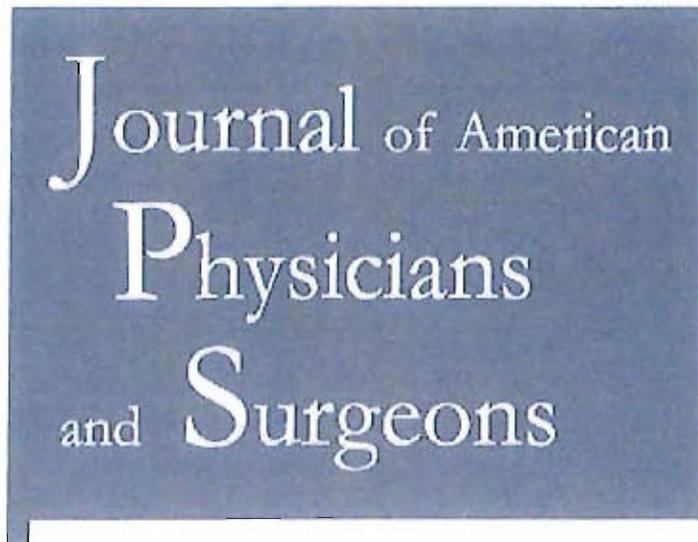


FIGURE 3. This figure appears in the CDC (1999) report. It implies that tooth decay in 12-year olds is coming down in the US over the period 1960–1990s because the percentage of the population drinking fluoridated water went up over the same period. But compare with Figure 2, which shows tooth decay coming down over the same period in both fluoridated and non-fluoridated countries.



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(Charles Medawar and Anita Hardon)
Reviewed by B.K. Eakman

Water Fluoridation: a Review of Recent Research and Actions

Joel M. Kauffman, Ph. D.

ABSTRACT

Fluoridation of drinking water began 60 years ago in the United States, and it continues in 60% of public water supplies in the country today. Much of Australia, Canada, Ireland, and New Zealand have fluoridated water, but most developed non-English speaking countries have rejected this practice as nonbeneficial and possibly harmful.

Current fluoridating agents, sodium hexafluorosilicate and hexafluorosilicic acid, which replaced sodium fluoride by 1980, differ from the calcium fluoride in naturally fluoridated water, which was the basis for claims of tooth decay prevention in early epidemiologic studies. Studies reported in the past 15 years support only possible slight benefits from water fluoridation for the deciduous teeth of 5-year-old children, although topical fluoride treatments may be effective.

Harmful effects may include bone and tooth fractures and increased cancer rates.

Complex legal maneuvers have been used in an effort to prevent or stop fluoridation. The case against it has been weakened by opponents' condemnation of all organofluorine compounds.

Individuals can use several methods to remove fluoride from water.

Essential Chemistry

Fluorine (F_2 or $F-F$) is element #9 in the Periodic Table. The fluoride ion (F^-), which has one negative charge, must be accompanied by a cation such as sodium (Na^+), as in sodium fluoride (Na^+F^- or NaF). Other inorganics, such as liquid hydrofluoric acid (HF , often called hydrogen fluoride as a gas), hexafluorosilicic acid (H_2SiF_6), and compounds with a $P-F$ bond, such as the sodium monofluorophosphate (Na_2PO_3F) used in toothpaste, as well as organics, such as methanesulfonyl fluoride (CH_3SO_2F) and acetyl fluoride (CH_3COF), also form F^- in water or alkali.

The trifluoromethyl group (CF_3-) or the fluorophenyl group (CF_2H-) are often incorporated into drug molecules to make them more resistant to being metabolized. Organic polymers (Teflon) and refrigerants with $-CF_2-$ groups are usually extremely stable both chemically and thermally.

Brief History of Fluoridation

By the early 1900s it was noticed that inhabitants of some areas of the United States, especially parts of Colorado and Texas, had mottled teeth (dental fluorosis), and that children with fluorosis tended to have fewer cavities.¹ Usually the natural mineral fluorite, calcium fluoride (CaF_2), is the source of fluoride ion.

Industries that produced large quantities of fluoride byproducts were especially interested in this effect and have been accused by

antifluoridation activists of promoting water fluoridation as a method of toxic waste disposal.^{2,3} Information concerning the quantities of the waste and the proportion used in fluoridation has been unobtainable. The purported value of fluoridation for dental health has, however, served to mitigate concerns about the toxicity of fluoride wastes.

The Manhattan Project made use of uranium hexafluoride gas, fluoroorganic lubricants for metal bearings, and other fluorine-containing materials. Aluminum production, which increased greatly in World War II, utilized cryolite (Na_3AlF_6). Zinc and fluorocarbon production also soared with emissions of fluoride ion or its precursors.

An Alcoa-sponsored biochemist, Gerald J. Cox, fluoridated some laboratory rats in a study and concluded that fluoride reduced cavities, writing that: "The case should be regarded as proved."⁴ On Sept 29, 1939, at a meeting of the American Water Works Association in Johnstown, Pa., "...Cox proposed that America should now consider adding fluoride to the public water supply."⁴

In the 1940s, certain major figures in the Manhattan Project and in fluoride-waste-producing industries succeeded in using some epidemiologic studies, now discredited,⁵ to allow public water supplies to have sodium fluoride added in order to prove that 1 ppm of fluoride ion would "prevent tooth decay in children." None of these or later studies followed other dental or medical outcomes of fluoride consumption over long periods, a flaw that remains in many medical trials to this day.⁶

Henry Trudley Dean, D.D.S., a U.S. Public Health Service researcher, at first opposed the addition of fluorides to city water supplies because of toxicity. He later changed his mind, perhaps believing that mottled teeth were a small price to pay for less decay, or perhaps for other reasons. He later became the first Director of the National Institute of Dental Research (NIDR), and then, in 1953, a top official of the American Dental Association (ADA), two organizations that remain unshakably committed to fluoridation.⁷ They claim the credit for the drop in tooth decay in the United States during the past 50 years.

Once opposition by professionals was overcome, largely through the ADA and NIDR, the selling of fluoridation to the public was aided by hiring Edward L. Bernays, often called "the father of public relations," who had been hired earlier by the tobacco industry to persuade women to take up smoking.⁸

Fluoridation with sodium fluoride (NaF) was begun in the United States in 1945. Today, fluoridation uses hexafluorosilicic acid (H_2SiF_6) and its sodium salt (Na_2SiF_6) almost exclusively. These are not pure, but recovered in crude form by scrubbing the gaseous emissions from the treatment of phosphate ores with sulfuric acid. They contain variable amounts of lead, arsenic, beryllium, vanadium, cadmium, and mercury.⁹ Because of this change in fluoridation agents, old studies based on the use of natural calcium fluoride or on chemically pure sodium fluoride are irrelevant, even had they been done correctly. Calcium is a strong

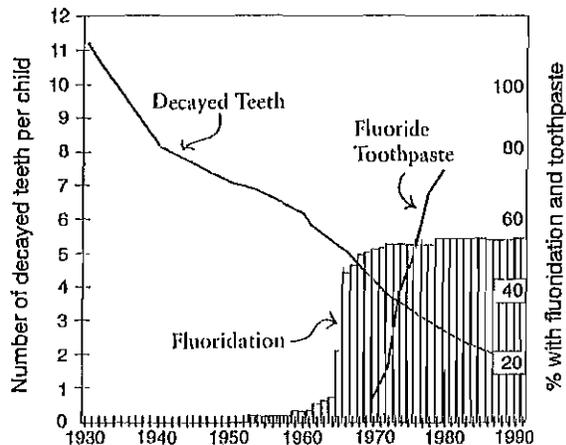


Figure 1. Tooth decay rates in 5-year-old children (left scale) vs. water fluoridation percentage (right scale) and fluoride toothpaste percentage (right scale). From Colquhoun,² cited in Groves,¹ reprinted with permission.

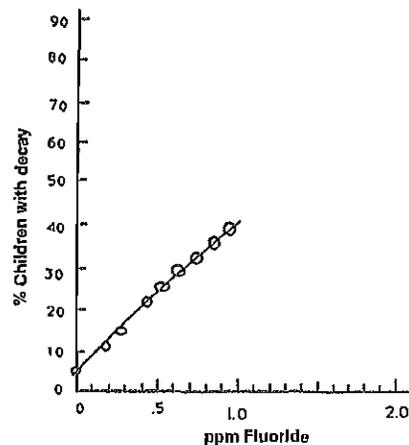


Figure 2. Study of tooth decay in 29,000 elementary schoolchildren in Tucson, Ariz., vs. fluoride content of their drinking water. Reprinted from Judd³, with permission.

antagonist of fluoride, reduces its concentration in plasma, and inhibits its absorption from the intestine.⁷

Fluoridation at 1 ppm fluoride reached its current extent by 1965. The proportion of fluoridated public water supplies is about 60% in the United States, 66% in Ireland, 55% in Canada, and 10% in England. Australia and New Zealand also use fluoridation extensively. At present almost none of the public water supplies in Austria, Germany, Luxemburg, Denmark, Finland, Norway, Sweden, the Netherlands, Switzerland, France, Italy, Belgium, Switzerland, Spain, Hungary, Portugal, Greece, Japan, and China are fluoridated. About half of these countries tried fluoridation, saw no benefit, and stopped it.¹

U.S. studies on the toxicity of fluorine compounds, not necessarily the ones used to fluoridate water, have reportedly been suppressed, classified, censored, and removed from the National Archives.² Some of this activity has been traced to Harold Carpenter Hodge, Ph.D., a biochemist and toxicologist at the University of Rochester, where he supervised experiments for the Manhattan Project involving the injection of unsuspecting hospital patients with uranium and plutonium compounds. He later became chairman of the National Research Council's Committee on Toxicology and the leading promoter of fluoridation in the United States during the Cold War. In 1953, Hodge, using data from a European study,¹ estimated that the amount of daily fluoride intake for 10-20 years that would *not* cause crippling skeletal fluorosis was 20-80 mg/day. It was later found that he had confused mg/kg with mg/lb. An American antifluoride campaigner, Darlene Shetrel, used the same European study from 1937 to estimate that skeletal fluorosis might be avoided with intakes of no more than 10-25 mg/day.¹

In 1975, the U.S. Food and Drug Administration (FDA) explicitly designated fluoride as "not generally recognized as safe" and permitted no fluoride whatsoever to be added to food or to over-the-counter dietary supplements. Nevertheless, the Department of Health, Education and Welfare (now Health and Human Services) exempted fluoridated water from this ban, including fluoridated water used to process food.¹

In 1985, the U.S. Environmental Protection Agency (EPA) set 4 ppm (up from 2 ppm) as the safe level for fluoride in drinking water and prevailed in a lawsuit challenge.¹

While the ADA, the Centers for Disease Control and Prevention (CDC), and the NIDR of the National Institutes for Health (NIH) still support fluoridation, some 17 U.S. organizations have withdrawn their support since 1990, including the American Academy of Allergy and Immunology, the American Academy of Diabetes, the American Cancer Society, the American Diabetes Association, the American Nurses Association, the American Psychiatric Association, the National Kidney Foundation, and the Society of Toxicology.¹

Discussion of the scientific studies on fluoridation, as presented in the following sections, has been neglected by most of the media in the United States. The unique journal *Fluoride* is not covered by PubMed. Michael Easley, M.P.H., national spokesman on fluoridation for the ADA, posted the following on the internet for dentists in 1996: "...anti-fluoride cultists will not be dissuaded by the truth.... Let them spew their garbage, ignore them, and go on with your discussions as if they weren't there.... [T]heir twisted minds have accepted the notion that it is OK to lie, slander, libel, exaggerate, misquote.... [S]ee what kooks they really are." Some of the purported "lies" are presented in the next sections.

Does Water Fluoridation Prevent Tooth Decay?

Dean ran the first trial of fluoridation in Grand Rapids, Mich., in 1945, declaring it a success in comparison with nonfluoridated Muskegon, Mich. Since that time, he twice confessed in court that statistics from the early studies were invalid.¹

Newburgh, N.Y., next to be fluoridated in 1945, was compared with Kingston, N.Y., as a control. Early reports were favorable. But by 1989 workers at the New York State Department of Health found a difference of less than 1 fewer teeth decayed in 7-14-year-old children in Newburgh, favoring fluoridation. And by 1995 children's teeth in Kingston had slightly less tooth decay and half as much damage from fluoride.¹ This negative result was possibly caused by a change in the fluoridation agent, or possibly by more accurate reporting.

North Shields, England, has no natural fluoride in its water, while South Shields has 1.4 ppm. While children of the same age had fewer decayed teeth in fluoridated South Shields, it was noticed that the onset of decay was merely delayed 3 years.¹ This finding

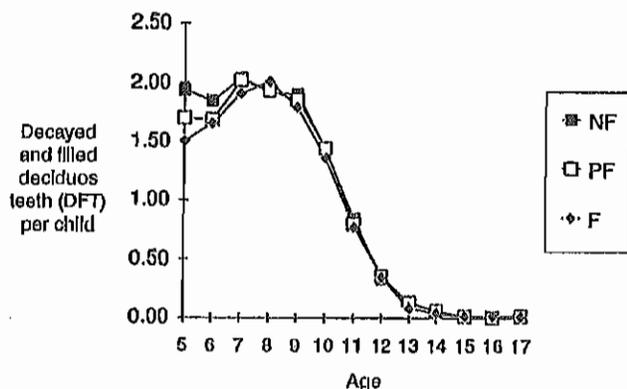


Figure 5. Decay of deciduous teeth in 39,207 white children in 84 areas in the United States. F, fluoridated; PF, partially fluoridated; NF, nonfluoridated areas. Reprinted from Yiamouyiannis,⁸ with permission.

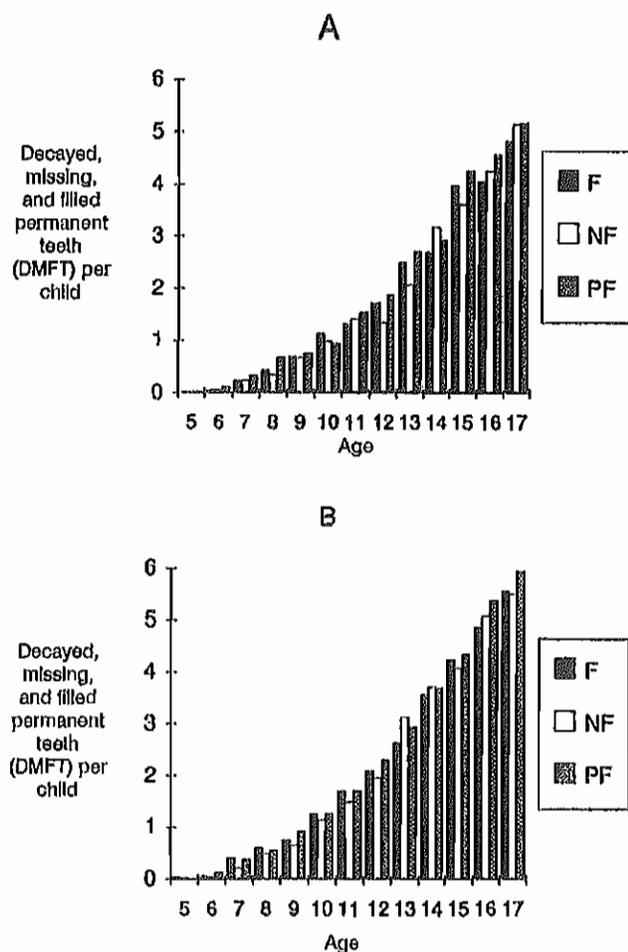


Figure 6. Decay of permanent teeth in 39,207 white children in 84 areas in the United States. F, fluoridated; PF, partially fluoridated; NF, nonfluoridated areas. Reprinted from Yiamouyiannis,⁸ with permission.

Medical Association and the *Journal of Dental Research* using data from the same source, were not substantiated by Yiamouyiannis.

On the basis of observational studies, Hardy Limeback, B.Sc., Ph.D., D.D.S., head of the Department of Preventive Dentistry for the University of Toronto and President of the Canadian Association for Dental Research, announced a reversal of his earlier profluoridation views. In an April 1999 interview, Limeback, once the primary promoter of fluoridation, stated: "Children under three should never use fluoridated toothpaste or drink fluoridated water. And baby formula must never be made up using Toronto tap water. Never." He remarked that "Vancouver, never fluoridated, has a lower cavity rate than Toronto, which has been fluoridated for 36 years [through 1999]."^{10,11}

In a recent article in the *Journal of the American Dental Association*, Featherstone wrote that: "Fluoride incorporated during tooth development is insufficient to play a significant role in caries protection."¹² In fact, fluoridation of municipal water supplies increases tooth decay overall in some studies and has not been demonstrated to be effective in prevention of decay in the most convincing studies, such as those of Colquhoun, Kalsbeek, and Yiamouyiannis, he concluded.

The effects of fluoridation were praised in a 2004 book, *Fluorides in the Environment: Effects on Plants and Animals* by L.H. Weinstein and A. Davison, but expert reviewers considered the book to be blatantly biased.¹⁴

Fluoride Supplements and Topical Application

No adequate evidence for the effectiveness of fluoride supplements as pills or drops, or topical application of fluoride by means of toothpaste or dental rinses, had ever been presented.¹ Colquhoun's study concluded there was also no benefit from fluoridated toothpaste.⁹

"Until recently, the rationale for most caries preventive programs using fluoride was to incorporate fluoride into the dental enamel. The relative role of enamel fluoride in caries prevention is now increasingly questioned, and based on rat experiments and reevaluation of human clinical data, it appears to be of minor importance..."¹⁵ In fact, "...the prevalence of dental caries in a population is not inversely related to the concentration of fluoride in enamel, and a higher concentration of enamel fluoride is not necessarily more efficacious in preventing dental caries."¹⁶ Limeback found on reexamining the literature that topical effects of fluoride on newly erupted teeth were more likely to explain any benefit of fluoride than swallowing it in water or pill form.¹² In vitro experiments showed that topical fluoride might protect tooth enamel by inhibition of bacterial metabolism, limiting acid generation.¹⁷

Is Fluoridation Safe for the General Population?

In a report authored by Perry D. Colu, Ph.D., M.P.H., for the New Jersey Department of Environmental Protection and the New Jersey Department of Health, the rates of bone cancer in fluoridated and nonfluoridated areas were compared. Both by counties or by municipalities, males under the age of 50 had 3 to 7 times as many bone cancers in the fluoridated areas. Males 10-19 years old fared the worst.¹⁸ An external review panel found no serious flaws with the study.

Cancer rates in the ten largest fluoridated cities in the United States and in the ten largest nonfluoridated cities were found to be the same before fluoridation began. After 20 years, the ten fluoridated cities had 10% more cancer deaths than the nonfluoridated cities. The cancers were found in the tongue, mouth, pharynx, esophagus, stomach, colon, rectum, pancreas, larynx, bronchi, and lungs.¹

Hip fractures in two cities in Utah were compared: fluoridated Brigham City and nonfluoridated Cedar City. In the fluoridated (1 ppm) city, the hip fracture rate was twice as high as in the nonfluoridated city, in women around age 75. Men aged 80-85 also had twice the hip fracture rate in fluoridated Brigham City.¹⁹ The insidious nature of fluoride toxicity is that it does not cause bone density loss as found in osteoporosis by bone scans, but causes an increase in bone density with no clinical benefit. Fluoride makes both bones and teeth more brittle.^{1,20} Early reports of supposed benefits of fluoridation to bone were quoted without citing later corrections or retractions.²¹

Dr. A. K. Susheela of the India Institute of Medical Sciences in New Delhi found that fluoride severely disrupts formation of bone matrix, inhibiting the hardening of bones. She found that about 20 countries in the world have serious health problems due to excess fluoride. Her work showed that high levels of fluoride in drinking water were associated with birth defects, stillbirths, and early infant mortality.¹

Excess fluoride may also have detrimental neurologic effects. Rats given sodium fluoride in their drinking water at a concentration producing a plasma level of fluoride equivalent to that found in humans consuming water with 4 ppm of fluoride developed symptoms resembling attention deficit-hyperactivity disorder.²¹

Gerard F. Judd, Ph.D., lists 113 ailments reportedly caused by fluoride, all with literature citations to studies, of which 13 were double-blinded.⁵ So far, there are no known naturally occurring compounds of fluorine in the human body.²² Fluorine is not listed as even a trace element in whole body assays,²³ showing that there is no requirement for it at all.

Water fluoridated to 1 ppm fluoride is not safe in the general population. How much of the toxicity results from the arsenic and heavy metal contamination in the newer fluoridating agents is not yet known. Additionally, certain populations such as patients with diabetes or renal impairment are at increased risk, especially if they drink more than average amounts of water.²⁴ A study comparing 25 young adults with fluorosis against 25 matched controls showed very significant impairment of glucose tolerance in those with fluorosis, which, however, was reversible when water with low fluoride levels was given.²⁵

How Antifluoridationists Have Weakened Their Case

Groups such as Parents for Fluoride Poisoned Children (PFPC), based in British Columbia, Canada, and the National Pure Water Association Ltd. in the UK justifiably attempt to prevent fluoridation of water. Unfortunately, they suffer from chemophobia, which is not only a fear of all "chemicals," but a fear of consulting with chemists. As a result, they list any material that contains fluorine in any form as a danger by claiming that it contains "fluoride," and certain book authors and many website authors opposing fluoridation repeat this unsound assertion. The list includes Teflon and Tefal non-stick pan coatings, fluorocarbon

propellants, and many drugs. Drugs that contain fluorine include: fluoxetine (Prozac), ciprofloxacin (Cipro), flunitrazepam (Rohypnol), fluconazole (Diflucan), fluticasone (Flixonase or Flixotide), trifluoperazine (Stelazine), flucoxacin (Floxapen), cerivastatin (Baycol), cisapride (Propulsid), astemizole (Hismanal), and fenfluramine (Pondimin). In fact, none of these materials either contain fluoride ion or are metabolized to generate any significant amount of fluoride ion. All contain the very stable carbon-fluorine bond in the form of trifluoromethyl (CF₃-), difluoromethylene (-CF₂-), fluoroalkane (-CHF-), or fluorophenyl (FC₆H₄-) groups. The fluoro groups are chosen for the drugs to retard their metabolism, increasing the duration of effective drug levels in the body. Judd, a chemist, did not make the mistake of confusing fluorine with fluoride in his book.⁵

For Teflon, the maximum continuous service temperature is listed as 260°C or 500°F in the *Chemical Rubber Co. Handbook of 1976-1977*. Overheating Teflon may produce an irritant, perhaps perfluorooctanoic acid, but the irritant is unlikely to be fluoride ion. Asked for evidence on the toxicity of Teflon, the scientific advisor to one of the antifluoridation groups sent citations to four papers on the decomposition of Teflon by ionizing radiation. Clearly this is irrelevant to ordinary use in cooking.

Fluorocarbon refrigerants and propellants such as R12, and fluorine-containing general anesthetics such as halothane and methoxyflurane, are metabolized very slowly or not at all. However, some of the fluorine in the general anesthetics enflurane, desflurane, and isoflurane is metabolized to fluoride ion.²⁶

Asked for evidence on the toxicity of fluorinated drugs, the scientific advisor to one of the antifluoridation groups provided citations to 13 papers. Ten of the 13 were published in 1952 or earlier. Some concerned analytical methods and methods of synthesis of fluorine-containing compounds. Citations from the 1930s showed the toxicity of sodium fluoride from its interference with thyroid hormone biosynthesis.²⁷ Another from 1949 showed that 3-fluoro-5-bromo(or iodo)tyrosine was toxic in mice, and five other fluorophenyl compounds less so.²⁸ The toxicity of 3-fluorotyrosine and 3,5-difluorotyrosine was confirmed, including in humans,^{29,31} but this is a special case in which these amino acid derivatives interfere with thyroid hormone biosynthesis.

Ciprofloxacin, like all drugs, is associated with some toxicity—but not from fluoride. The scientific advisor to one of the antifluoridation groups cited a report showing elevated serum and urine levels of fluoride in children after administration of this drug.³² The actual elevation of fluoride in serum was from 0.08 to 0.21 ppm in 12 hours, and could not account for more than a fraction of the fluorine (23 mg) in the 400 mg doses used of ciprofloxacin; moreover, there was no follow-up measurement. The elevation of fluoride in urine from 0.97 to 1.12 ppm after a week was not statistically significant. The authors did not try to measure fluorinated metabolites or unchanged drug, and after MRI scans and about 2 years of follow-up by physical examinations, they pronounced short courses of ciprofloxacin safe in children. Although ciprofloxacin liberates fluoride under UVB illumination in vitro, it is metabolized in vivo mostly by hydroxylation and N-sulfation, not by loss of fluoride ion.²⁶

The risk of rhabdomyolysis, the major toxicity of the statin drugs, is about the same with atorvastatin and pravastatin, which contain fluoro groups, and simvastatin, which does not.³³ A group at Duke University Medical Center searched the literature from

a manner that demonstrates their political power. Many published studies that had conclusions favoring fluoridation were later found unsupported by their raw data.

There is evidence that fluoridation increases the incidence of cancer, hip fractures, joint problems, and that by causing fluorosis it damages both teeth and bones. Other medical problems may also occur, including neurologic damage.

Antifluoridationists compromise their credibility by unwarranted assertions that many stable fluorine-containing materials are harmful.

The EPA should set the enforceable Maximum Contaminant Level at 0.4 ppm fluoride in drinking water.

The FDA should reverse its position on permitting sale of products containing fluoride that claim dental benefit without proof of safety or effectiveness.

Fluoridation of municipal water should cease. Defluoridation of naturally fluoridated water down to 0.4 ppm of fluoride should be mandated. Individuals should remove fluoride from their tap water if fluoridation cannot be stopped.

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Best read on line in order to follow links

Exhibit 12

CONTACT

WHY I AM NOW OFFICIALLY OPPOSED TO ADDING FLUORIDE TO DRINKING WATER

Facebook (<http://www.facebook.com/FuorideActionNetwork>)
ADDING FLUORIDE TO DRINKING WATER

<https://npa.networkformond.org/Donate/Donate.aspx?noSubscriptionId=2553>

Dr. Hardy Limeback, BSc, PhD, DDS | Former President, Canadian Association for Dental Research

April, 2000

To whom it may concern:

<https://www.facebook.com/#!/pages/floridealert.myshopify.com/>
<http://www.fluoridealert.org/articles/limeback/>

<https://twitter.com/shere>

CURRENT PETITIONS

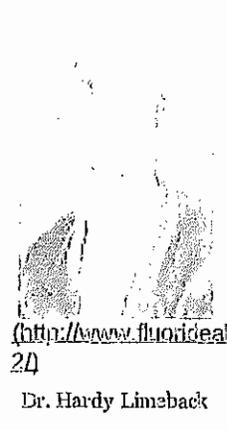
Since April of 1999, I have publicly decried the addition of fluoride, especially hydrofluosilicic acid, to drinking water for the purpose of preventing tooth decay. The following summarize my reasons.

1 1

Together we can change policy. Sign our petitions to help us change health standards:

New evidence for lack of effectiveness of fluoridation in modern times.

http://salsa-democracyinaction.org/o/2477/#!/2782/campaign_KEY=21960



1. Modern studies (published in the 1980's 1990's) show dental decay rates are so low in North America that the effects of water fluoridation cannot be measured.

http://salsa-democracyinaction.org/o/2477/#!/5221/sign_key=2976

BECOME OUR VOLUNTEER KIT

<http://www.fluoridealert.org/take-action/activist-tool-kit/>

<http://www.fluoridealert.org/articles/limeback/limeback-2/>

Dr. Hardy Limeback

FAN NEWSLETTER

Sign up for our free newsletter and get monthly updates about how fluoride is affecting all of us.

| | |
|----------------|------------|
| First Name* | Last Name* |
| Email* | |
| State/Province | Country |
| JOIN | |

http://www.fluoridealert.org/issues/carries/us_studies/. Because of the low prevalence of dental decay, water fluoridation studies today must be carefully conducted to correct for mobility of subjects between fluoridated and non-fluoridated areas, access to fluoride from other sources, the lack of blinding and problems with the 'halo' effect. Even when very large sample sizes are used to obtain statistically significant results, the benefit of water fluoridation is not a clinically relevant one (the number of tooth surfaces saved from dental decay per person is less than one half). Recent studies show that halting fluoridation will either result in only a marginal increase in dental decay which cannot be detected or no increase in dental decay at all.

QUICK FACTS

MANY CHILDREN NOW EXCEED RECOMMENDED DAILY FLUORIDE INTAKE FROM TOOTH PASTE ALONE.
<http://fluoridealert.org/issues/sources/f-toothpaste/>

2. The major reasons for the general decline of tooth decay (<http://www.fluoridealert.org/issues/carries/who-data/>) worldwide, both in non-fluoridated and fluoridated areas, is the widespread use of fluoridated toothpaste, improved diets, and overall improved general and dental health (antibiotics, preservatives, hygiene etc).

FLUORINATION DISPROPORTIONATELY HARMS BLACK CHILDREN.

3. There is now a better understanding of how fluoride prevents dental decay. What little benefit fluoridated water may still provide is derived primarily

http://www.fluoridealert.org/stories/dental_f

teeth erupt and come in contact with fluorides in the oral cavity). Fluoride does not need to be swallowed (http://www.fluoridealert.org/issues/carles/topical_systemic/) to be effective. It is not an essential nutrient (<http://www.fluoridealert.org/studies/essential-nutrient/>). Nor should it be considered a desirable "supplement" for children living in non-fluoridated areas. Fluoride ingestion delays tooth eruption and this may account for some of the differences seen in the past between fluoridated and non-fluoridated areas (i.e. dental decay is simply postponed). No fluoridation study has ever separated out the systemic effects of fluoride. Even if there were a systemic benefit from ingestion of fluoride, it would be miniscule and clinically irrelevant. The notion that systemic fluorides are needed in non-fluoridated areas is an outdated one that should be abandoned altogether.

New evidence for potential serious harm from long-term fluoride ingestion.

1. Hydrofluorosilicic acid is recovered from the smokestack scrubbers (<http://www.fluoridealert.org/articles/phosphate01/>) during the production of phosphate fertilizer and sold to most of the major cities in North America, which use this industrial grade source of fluoride to fluoridate drinking water, rather than the more expensive pharmaceutical grade sodium fluoride salt. Fluorosilicates have never been tested (<http://www.fluoridealert.org/uploads/epa-masters.pdf>) for safety in humans. Furthermore, these industrial-grade chemicals are contaminated with trace amounts of heavy metals such as lead, arsenic and radium that accumulate in humans. Increased lead levels have been found in children living in fluoridated communities. Osteosarcoma (bone cancer) has been shown to be associated with radium in the drinking water. Long-term ingestion of these harmful elements should be avoided altogether.

2. Half of all ingested fluoride remains in the skeletal system and accumulates with age. Several recent epidemiological studies suggest that only a few years of fluoride ingestion from fluoridated water increases the risk for bone fracture (<http://www.fluoridealert.org/issues/health/bone/>). The relationship between the milder symptoms of bone fluorosis (joint pain and arthritic symptoms (<http://www.fluoridealert.org/issues/health/arthritits/>)) and fluoride accumulation in humans has never been investigated. People unable to eliminate fluoride under normal conditions (kidney impairment (<http://www.fluoridealert.org/issues/health/kidney/>)) or people who ingest more than average amounts of water (athletes, diabetics) are more at risk to be affected by the toxic effects of fluoride accumulation.

3. There is a dose-dependent relationship between the prevalence/severity of dental fluorosis (<http://www.fluoridealert.org/issues/fluorosis/>) and fluoride ingestion. When dental decay rates were high, a certain amount of dental fluorosis was considered an acceptable "trade off" of providing an "optimum" dose of 1.0 ppm fluoride in the water. However, studies published in the 1980's and 1990's have shown that dental fluorosis has increased dramatically (http://www.fluoridealert.org/studies/dental_fluorosis01/) in North America. Infants (<http://www.fluoridealert.org/issues/infant-exposure/>) and toddlers are especially at risk for dental fluorosis of the front teeth since it is during the first 3 years of life that the permanent front teeth are the most sensitive to the effects of fluoride. Children fed formula made with fluoridated tap water are at higher risk to develop dental fluorosis. A relatively small percentage of the children affected with dental fluorosis have the more severe kind that requires extensive restorative dental work to correct the damage. The long-term effect of fluoride accumulation on dentin colour and biomechanics is also unknown. Generalized dental fluorosis of all the permanent teeth indicates that the bone is a major

HEAVY TEA DRINKERS RISK FLUORIDE-INDUCED BONE DISEASE.
(<http://www.fluoridealert.org/studies/tea03/>)

EXCESSIVE FLUORIDE EXPOSURE CAN CAUSE OSTEOARTHRITIS.
(<http://www.fluoridealert.org/studies/arthritits0>)

RELATED VIDEOS:



Professional Perspectives on Water Fluoridation
(<http://www.fluoridealert.org/fan-tv/prof-perspectives/>)



A Pediatrician Speaks Out on Fluoridation
(<http://www.fluoridealert.org/fan-tv/dr-whyte/>)

RELATED ARTICLES:

The Absurdities of Water Fluoridation
(<http://www.fluoridealert.org/articles/absurdity/>)

RELATED STUDIES:

High Fluoride Exposure Increases Tooth Decay
Studies: High fluoride levels in water increase tooth decay rates. Logistic regression analyses indicated that children in the high-F and urban Anzhu municipality were at a significantly higher risk of dental caries than children in the low-F areas. SOURCE: Awada AK, et al. (2002). Caries experience and caries predictors - a study
(http://www.fluoridealert.org/studies/caries_1/)

Dental Fluorosis Is a "Hypo-mineralization" of Enamel
Teeth with fluorosis have an increase in porosity in the subsurface enamel ("hypo-mineralization"). The increased porosity of enamel found in fluorosis is a result of a fluoride-induced impairment in the clearance of proteins (amelogenins) from the developing tooth. Details over 50 years of research, the exact mechanism by which fluoride impairs amelogenin
(http://www.fluoridealert.org/studies/dental_fluorosis06/)

"Mild" Dental Fluorosis: Perceptions & Psychological Impact
The vast majority of research has found that parents, patients and the general public alike view mild fluorosis (TF score 2) as a significant blemish of the teeth, one that is likely to embarrass the affected child to a degree

bone is unknown. Whether stress bone fractures occur more often in children with dental fluorosis has not been studied.

4. A lifetime of excessive fluoride ingestion will undoubtedly have detrimental effects on a number of biological systems

(<http://www.fluoridealert.org/articles/fluoride-biochemistry/>) in the body and it is illogical to assume that tooth enamel is the only tissue affected by low daily doses of fluoride ingestion. Fluoride activates G-protein and a number of cascade reactions in the cell. At high concentrations it is both mitogenic and genotoxic (<http://www.fluoridealert.org/studies/cancer01/>). Some published studies point to fluoride's interference with the reproductive system (<http://www.fluoridealert.org/issues/health/fertility/>), the pineal gland (<http://www.fluoridealert.org/issues/health/pineal/>) and thyroid function. Fluoride is a proven carcinogen (<http://www.fluoridealert.org/articles/science-watch11/>) in humans exposed to high industrial levels. No study has yet been conducted to determine the level of fluoride that bone cells are exposed to when fluoride-rich bone is turned over. Thus, the issue of fluoride causing bone cancer (<http://www.fluoridealert.org/studies/cancer05/>) cannot be dismissed as being a non-issue since carefully conducted animal and human cancer studies using the exact same chemicals added to our drinking water have not been carried out.

The issue of mass medication

(<http://www.fluoridealert.org/issues/water/medical-ethics/>) of an unapproved drug without the expressed informed consent of each individual must also be addressed. The dose of fluoride cannot be controlled. Fluoride as a drug has contaminated most processed foods and beverages throughout North America. Individuals who are susceptible to fluoride's harmful effects cannot avoid ingesting this drug. This presents a medico-legal and ethical dilemma and sets water fluoridation apart from vaccination as a public health measure where doses and distribution can be controlled. The rights of individuals to enjoy the freedom from involuntary fluoride medication certainly outweigh the right of society to enforce this public health measure, especially when the evidence of benefit is marginal (<http://www.fluoridealert.org/studies/caries02/>) at best.

Based on the points outlined briefly above, the evidence has convinced me that the benefits of water fluoridation no longer outweigh the risks (<http://www.fluoridealert.org/researches/nrc/>). The money saved from halting water fluoridation programs can be more wisely spent on concentrated public health efforts to reduce dental decay in the populations that are still at risk and this will, at the same time, lower the incidence of the harmful side effects that a large segment of the general population is currently experiencing because of this outdated public health measure.

Sincerely,

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RELATED MISCELLANEOUS CONTENT:

Top 10 Ways to Reduce Fluoride Exposure

The following 10 tips will allow you to significantly reduce your daily exposure to fluoride. 1) Stop Drinking Fluoridated Water. Tap water consumption is, on average, the largest daily source of fluoride exposure for people who live in areas that add fluoride to the water. Avoiding consumption of fluoridated water is especially (http://www.fluoridealert.org/content/top_ten/)

Water Fluoridation Status in Western Europe

As the following table shows, only 3% of the population in western Europe is currently consuming fluoridated water. Europe's reasons for not fluoridating its water are explained here. Despite not fluoridating its water, tooth decay rates in these western European countries are no higher than in the few western countries that do. (http://www.fluoridealert.org/content/water_europe/)

Fluoride Intake from Toothpaste vs. Recommended Daily Intake from All Sources

For many children, fluoride toothpaste is the largest source of fluoride intake. One stick of fluoridated toothpaste on a child-sized toothbrush contains between 0.75 and 1.5 mg of fluoride, which is more fluoride than is found in many prescription fluoride supplements (0.25 to 1.0 mg per tablet). Since young children are (<http://www.fluoridealert.org/content/toothpaste-exposure/>)

(<http://www.fluoridealert.org/take-action>)

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The Fluoride Debate: A Closer Look At The Science

OPB | May 09, 2013 6 a.m. | Updated: May 13, 2013 10:52 a.m. | Portland, Oregon

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When Portland's fluoride debate first flared in September, Kristian Foden-Vencil looked at two scientific studies that were often cited in the fluoride debate. Here's an update.

Portland residents will decide whether to fluoridate their drinking water supply in the May 21 special election.

Multnomah County has set a new record for the thickness of its voters' guide. A total of sixty-three arguments are included -- for and against.



Michael Clapp / OPB

It's enough to make anyone's head spin.

In the middle of the 20th century, researchers learned high levels of naturally occurring fluoride in towns like Colorado Springs were causing children's teeth to grow in brown and mottled.

They also noticed their teeth were surprisingly resistant to decay.

So in 1945, Grand Rapids, Michigan, agreed to add small amounts of fluoride to its water. A study found the rate of cavities among children there dropped 60 percent -- and the U.S. Surgeon General has supported fluoridation since the 1950s. □So, the debate has been running for decades.

One of the latest studies to raise hackles came out of Harvard University, last year. Researchers dug through dozens of previous studies and concluded that there is "the possibility of an adverse effect of high fluoride exposure on children's neurodevelopment."

Repeated calls and emails to the study's U.S. author, Anna Choi of the Harvard School of Public Health, were not returned last fall. But on Thursday, after rebroadcasting the story, OPB received an email from the study's authors, who said they were traveling at that time.

The researchers say their study summarized the findings of 27 studies on intelligence tests in fluoride-exposed children. Twenty-five of the studies were carried out in China.

The researchers say that on average, children with higher fluoride exposure showed poorer performance on IQ tests.

Fluoride released into the ground water in China in some cases greatly exceeded levels that are typical in the U.S.

The researchers say that complete information was not available on these 27 studies, and some limitations were identified. All but one of the 27 studies, they say, documented an IQ deficit associated with increased fluoride exposure.

The average loss in IQ was reported as a standardized weighted mean difference of 0.45, which would be approximately equivalent to seven IQ points for commonly used IQ scores with a standard deviation of 15.

(According to the Harvard School of Public Health's website, this sentence, that refers to IQ loss, was updated on September 5th, the same day that OPB's original story on fluoride aired. OPB was not contacted about this change).

However, the researchers concluded that these results did not allow them to make any judgment regarding possible levels of risk at levels of exposure typical for water fluoridation in the U.S.

On the other hand, they say, neither can it be concluded that no risk is present. They recommended further research to clarify what role fluoride exposure levels play in brain development.

Kim Kaminiski is fighting to stop fluoridation with Clean Water Portland.

She said, "We're seeing negative health effects at very low levels of fluoride."

She added, "I mean we can talk all day about parts per million, but the bottom line is, when we start putting it in our drinking water, that's the major exposure that most people have."

But perhaps the most controversial fluoride study came out in 2006. It found that, "For males less than 20 years old, fluoride levels in drinking water during growth, is associated with an increased risk of osteosarcoma."

Osteosarcoma is a bone cancer.

Kaminiski of Clean Water Portland says the 2006 study prompted her to start digging into the whole fluoride issue.

Kim Kaminski: "This was peer-reviewed and published. It was a very solid study. And at the time, being a mom it was very concerning to me."

Dr. Catherine Hayes of Health Resources in Action was an advisor for the 2006 study. She said that while it was peer reviewed, it was exploratory.

Catherine Hayes: "And it was done using a data set that was not as ... involved in terms of the questions and they didn't have any bone samples from cases or controls."

Still, the study raised enough eyebrows that a follow-up was done.

Hayes was a co-author on that follow-up. She's now a professor at Tufts University's School of Dental Medicine.

She says that instead of just gathering information about previous cases of osteosarcoma, researchers looked at actual samples of bone from people who had the cancer.

Catherine Hayes: "In that study, the bone was carefully examined amongst individuals who had the osteosarcoma and those that did not. And there was no difference in the amount of fluoride in the bone. And that's really significant, because now we're not estimating fluoride intake, we're really measuring it."

So as far as Hayes is concerned, it means there's no link between osteosarcoma and fluoride.

But fluoride opponents like Kaminiski aren't buying it. They say the study's other co-author, Chester Douglass, received payments from the toothpaste company Colgate-Palmolive.

Hayes said the allegations against Douglass don't hold water.

Hayes told OPB, "He was thoroughly investigated by Harvard University, a very extensive investigation and found completely innocent of any wrong doing. His involvement with Colgate is as someone who provides educational information to them. And there is absolutely no relationship between his consulting work with Colgate and his research."

Suffice it to say, whether you're talking to scientists, activists or health policy experts, it's easy to get bogged down in the details.

The list of organizations that endorse water fluoridation is long and authoritative -- the American Medical Association, the National Institutes of Health. □ But Portland's anti-fluoride campaign has attracted some big names too -- the local chapter of the Sierra Club, a scientist from the National Academy of Sciences Fluoride Committee, and consumer advocate Ralph Nader.

Even the local chapter of the NAACP came out against it.

Committee chair Clifford Walker says for him, it comes down to who you can trust.

Walker said, "You hear the arguments on both sides, but you become suspect of governments telling you it's okay."

For example Walker says infants fed formula mixed with fluoridated water risk being over exposed. He cites the American Dental Association and the Centers for Disease Control.

The CDC's website does say mixing infant formula with fluoridated water on a regular basis may increase the chance of a child developing mild enamel fluorosis -- that is faint white markings on teeth.

But the American Dental Association says mild fluorosis doesn't affect the health of a child or its teeth.

And besides the agencies say, parents can use purified bottled water to lessen the possibility.

But Walker says that's a problem.

He said, "A lot of times the income challenged people are not using the distilled or purified water, but they're mixing it from tap water."

The American Academy of Pediatrics website says that once a child's adult teeth come in -- around 8-years-of-age -- the risk of developing fluorosis is over.

Editor's Note:

Thursday, OPB aired a story about fluoride science. The story misstated where the American Cancer Society stands on water fluoridation. According to a Cancer Society spokesperson, the group has taken no position on water fluoridation. OPB regrets the error.

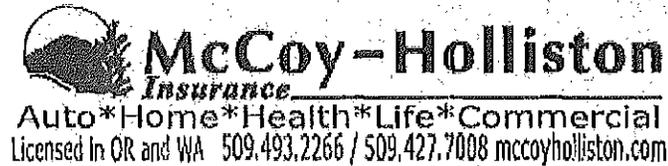
The story also contained information about a study that summarized the findings of 27 studies on intelligence tests of fluoride-exposed children. OPB quoted a faculty member from the Harvard School of Dental Medicine about the study. The study's authors were unavailable for comment when OPB first researched the story. Now, the study's authors, with the Harvard School of Public Health, say that faculty member made a statement based on incorrect information about the study.

Here's what the authors say about their research:

Twenty-five of the studies were carried out in China. Fluoride released into the ground water in China in some cases greatly exceeded levels that are typical in the U.S. In general, complete information was not available on all 27 studies, and the researchers identified some limitations.

On average, the study found that children with higher fluoride exposure showed poorer performance on IQ tests. The average loss in IQ was reported as a standardized weighted mean difference of 0.45, which would be approximately equivalent to seven IQ points.

The researchers conclude that these results do not allow them to make any judgment regarding possible risk at levels of exposure typical for water fluoridation in the U.S. On the other hand, they say, neither can it be concluded that no risk is present. They therefore recommend further research.



HOM

Letters - April 13

Hood River News

Thursday, August 4

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State your will

The extensive media coverage of the deaths of Terri Schiavo and Pope John Paul II has raised questions that everyone needs to think about: the "right to die" vs. the "right to live;" "quality of life" vs. "sanctity of

We each need to decide what is the balance between these opposites that is right for us. We need to discuss it with our families and doctors. And we need to put it in writing in the legal form of a Living Will which states our wishes, and Power of Attorney for Health Care which states who we want to make decisions when we cannot. Free forms are available at your hospital. Do it now!

Sally Duncombe

White Salmon

Vote yes on 14-23

To defend and maintain the quality of our city's drinking water, please vote YES on the Hood River Drinking Water Protection measure. My father was a dentist for 50 years and instilled in me the importance of keeping our drinking water chemical free; he especially opposed fluoridation of public water systems. He felt that the risk of dangerous side effects of fluoride to the overall health of people far outweighed any questionable benefit. In his professional opinion, the best protection for children's teeth is through nutrition education, dental hygiene and by increasing access to affordable dental care.

For years, we have been told by government officials or medical professionals that we should not be concerned about certain levels of chemicals in our environment or by some prescribed medications, only later find out that they have negatively affected our health.

It was reported at a City Council meeting in July 2005 that the city has an excess of 3 million gallons of chlorinated water, which is dumped into the Hood River DAILY. To change that to chlorinated/fluoridated water would be toxic to our river.

We in Hood River are so fortunate to have such high quality, pleasant tasting drinking water, and as a result do not feel the need to rely on bottled water like so many other communities. I believe it is time that people begin to take responsibility for their own health. One way is to protect our drinking water from the addition of a chemical waste and to keep it safe and clean. Please vote YES on ballot measure 14-23.

Kathy Eastman

Hood River

Vote no on 14-23

The recent Hood River News letter from a water system operator is a sad message indeed. This letter was originally published in The Oregonian. For roughly the cost of a candy bar a large city like Portland can provide water with the original concentration of the natural mineral fluoride. Yes, that includes the fluoride that some fear is wasted on the lawns and flowers.

In Hood River it will cost more. The information given our legislators is that the projected highest cost in cities studied was \$1.56 per person per year. Last year our hospital billed \$159,613 for our city's children's dental services requiring general anesthesia. This does not even include the professional fees. The per capita cost for these same services to The Dalles children drinking fluoridated water was only 25 percent of Hood River's bill.

As a physician I have witnessed firsthand operations done on children under general anesthesia. I know that the best data on our region found that there was over 60 percent fewer cavities in towns which fluoridated.

I've listened to physicians like pediatrician John Berry, from Corvallis, who were in practice when fluoridation first came to Oregon in the late 1950s, tell of the obvious and dramatic improvement in dental health that he witnessed. I've read the scientific literature and reviewed the opinions from groups of the most learned and prestigious public health scientists such as the CDC and the United Kingdom's York University. I know that the local Head Start screening shows 68 percent fewer cavities in fluoridated The Dalles.

Today nearly 70 percent of Americans receive the benefit of water fluoridation. Of major metropolitan areas when California's Fluoridation law is implemented only Wichita, Honolulu and Portland will not fluoridate. While all people with teeth are benefited, there is general agreement that fluoridation is even more important for disadvantaged and under-served peoples. This matter is amongst the most important social justice issues Hood River voters will ever be called upon to decide. For the sake of the children and the lives that will be lost, vote NO on 14-23.

Charles Haynie, M.D.

Hood River

What is set aside?

In a recent letter I indicated that the person involved in construction of the housing next to the Hood Riv Middle School was a commissioner. I did not give names, nor did I indicate whether this person was a or county commissioner. I have had phone conversations with the wife of one commissioner, who stated that their name was VERY similar to the person in charge but that they were not involved. In effect, I was told to get my facts straight. I indicated that I thought that another individual might be involved. I received a call from this other individual the same day. We arranged for a meeting. I enjoyed the meeting and actually feel that this commissioner did explain some of my concerns.

He/She explained that he/she was an investor in this property, but did not have a controlling voice in decisions. Now, some of the other specifics that we discussed. Apparently Hood River County, and city have set a standard where housing may be condensed into a small area if an area is designated as clear space. This was done to help people who had a part of their land in wetlands. They could set aside an acre or more, etc. and build on the rest of the property. They could count this "set aside" as part of the required for the buildable property.

The building development next to the middle school has been designated as this type of property. Housing can be very dense. The set aside area is the waterway and adjacent banks. Neither curbs nor drainage required. All can save substantial money in the development.

The waterway and banks are NOT a realistic play area for children. Again, according to my source, most of these houses have been purchased by people with no children. This is because these houses are designated "low income" or "starter homes." What happens when this changes?

Leonard Hickman

Hood River

G.E.M. is neutral

I am disturbed by the publication in your paper, as advertisements about the important local issue of fluoridation, of so-called "Fluoride Facts." Much of what is published in them as opinions of sets of people usually as 100 percent — is unverified and probably unverifiable. Some is simply false. Particularly disturbing to me is the claim in "Fluoride Fact No. 12" that Gorge Ecumenical Ministries has endorsed fluoridation.

Having been present, as secretary, at the meeting where a leading member of the pro-fluoridation people requested such an endorsement — while accusing, without proof, fluoridation opponents of deceit and I might add — I can report that the organization politely but unambiguously declined to provide such an endorsement. Instead, it supported the arrangement of a public forum at which all information and opinions pro and con might be presented.

G.E.M. continues to support such a forum as best serving the public's formation of an informed decision on this important matter. In the meantime, I suggest that readers take these so-called "facts" for what they are. Claims that remain often unconfirmed, and in some instances downright false.

Thomas G. Penchoen

Hood River

Roeseler responsible

I'm wondering how Mr. Percy Jensen, who has never met Port candidate Cory Roeseler, can claim to know how responsible Roeseler will be as a Port Commissioner. Mr. Jensen regurgitated an old news story reported by this paper, and he was obviously not well-informed. The reporter failed to follow up on three important details relating to the 14-16 campaign:

1. Many of the missing campaign reports to which Jensen refers were late years before Roeseler became Treasurer of CRWD.
2. Roeseler eventually completed all the reporting and had all fines dropped. (Inherited a mess ... clean up — sounds pretty darn responsible.)
3. During the same campaign, Port Executive Director, Dave Harlan, was found guilty of repeated election law violations, was fined \$75 by the Secretary of State, and Port Commissioner, Don Hosford, publicly defended this illegal behavior. "He (Harlan) was just doing his job and exploring all the issues and that's what we pay him to do," said Hosford. Then, after losing the election by a landslide, Hosford directed Harlan to spend thousands of your Port dollars to hire Portland-based lawyers to fight the will of the public. All the while Roeseler was simply trying to help give Hood River residents what they have been asking for for years: a waterfront park.

Who's the responsible one?

That the Hood River News has failed to report these stories with accuracy and fairness to Roeseler is no surprise. Last Saturday's issue mis-labeled him "a windsurfer" and it mis-reported his position at his place of employment (see corrections). While this sort of false labeling may cost Roeseler a few votes from the "windsurfer crowd," a group with whom Mr. Jensen may draw support, I can assure you that my husband is NOT a WINDSURFER! And believe me, I KNOW my husband.

Please consider the facts and vote Cory Roeseler for Port Position 2.

Terese Roeseler

Hood River

Fluoride tastes bad

I was in Hood River this past weekend visiting family and during First Friday noticed the information being distributed encouraging residents of Hood River to allow the addition of fluoride to their water.

I am from Salem and do not drink city water from the tap. My reason — it tastes awful. Hood River's tap water is excellent tasting, very crisp and clean without the taste of additives. Once home, I looked up information on the City of Salem's water quality (cityofsalem.org) and they add fluoride and chlorine to the city's water supply.

In addition, my vet advised me several years ago to give only bottled water to my two cats because the addition of chemicals in the water can be harmful to their health.

I would encourage the residents of Hood River to vote yes on the measure that will preserve the quality of their drinking water and keep it free of any additives such as fluoride.

Jan Willetts

Salem

Fluoride 'fraud'

I can't afford to pay for one of those little message boxes the pro-fluoride dental lobby is buying in this newspaper. In regard to their "Facts and Quotes" messages, I'd like to add one from the discoverer of streptomycin, a Rutgers Medal recipient, and Ph.D. in microbiology, Professor Albert Schatz, who calls fluoridation "the greatest fraud that has ever been perpetrated, and it has been perpetrated on more people than any other fraud has."

Casandra Woody

Hood River

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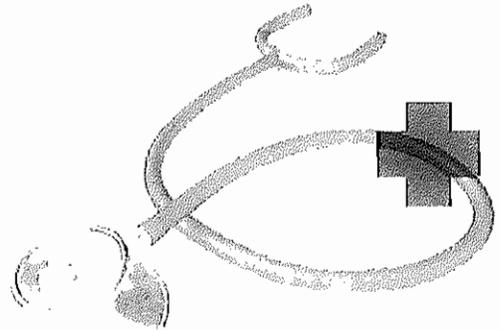
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Exhibit 15

PINEAL GLAND

"Fluoride is likely to cause decreased melatonin production and to have other effects on normal pineal function, which in turn could contribute to a variety of effects in humans." (National Research Council 2006).



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PINEAL GLAND

In the 1990s, a British scientist, Jennifer Luke, discovered (<http://www.fluoridealert.org/studies/luke-1997/>) that fluoride accumulates to strikingly high levels in the pineal gland. (Luke 2001). The pineal gland is located between the two hemispheres of the brain and is responsible for the synthesis and secretion of the hormone melatonin. Melatonin maintains the body's circadian rhythm (sleep-wake cycle), regulates the onset of puberty in females, and helps protect the body from cell damage caused by free radicals.

While it is not yet known if fluoride accumulation affects pineal gland function, preliminary animal experiments found that fluoride reduced melatonin levels and shortened the time to puberty. (Luke, 1997). Based on this and other evidence, the National Research Council (<http://www.fluoridealert.org/researchers/researchers/nrc/>) has stated that "fluoride is likely to cause decreased melatonin production and to have other effects on normal pineal function, which in turn could contribute to a variety of effects in humans" (NRC, 2006, p. 256).

The Pineal Gland Has Highest Levels of Fluoride in Body

As a calcifying tissue that is exposed to a high volume of blood flow, the pineal gland is a major target for fluoride accumulation in humans. In fact, the calcified parts of the pineal gland (hydroxyapatite crystals) contain the highest (<http://www.fluoridealert.org/studies/luke-2001/>) fluoride concentrations in the human body (up to 21,000 ppm F), higher than either bone or teeth. (Luke 1997; 2001). Although the soft tissue of the pineal does not accumulate fluoride to the same extent as the calcified part, it does contain higher levels of fluoride than found than in other types of soft tissue in the body — with concentrations (~300 ppm F) that are known in other contexts to inhibit enzymes. While the impacts of these fluoride concentrations in the pineal are not yet fully understood, studies have found that calcified deposits in the pineal are associated with decreased numbers of functioning pinealocytes and reduced melatonin production (Kunz et al., 1999) as well as impairments in the sleep-wake cycle. (Mahlberg 2009).

Info from
Bob Boyt
296-1228

In the United States, children are reaching the age of puberty at earlier ages than in the past — a trend that carries health consequences, including a heightened risk for breast cancer. Some evidence indicates that fluoride, via its effect on the pineal, could be a contributing cause to this trend. In animal studies, for example, fluoride exposure has been found to cause a decrease in the amount of circulating melatonin and lead to an accelerated sexual maturation (<http://www.fluoridealert.org/studies/luke-1997/>) in females. (Luke 1997). Similar findings have been reported in two epidemiological studies of human populations drinking fluoridated water. In the first published fluoridation safety experiment in Newburgh, New York, the authors found that girls living in a fluoridated community reached puberty five months earlier than girls living in a non-fluoridated community. (Schlesinger 1956) Later, in 1983, Farkas reported that postmenarcheal girls were "present at younger ages in the higher fluoride town than in the low-fluoride town, although the reported median ages were the same."

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As with Dr. Guan's team at the Karolinska Institute, Chino's team found that fluoride increased the level of oxidative stress in brains of the fluoride-treated animals.

[\(http://www.fluoridealert.org/articles/science-watch17/\)](http://www.fluoridealert.org/articles/science-watch17/)

RELATED STUDIES:

Luke (1997): The Effect of Fluoride on the Physiology of the Pineal Gland (Excerpts)

"The results suggest that fluoride is associated with low circulating levels of melatonin and this leads to an accelerated sexual maturation in female gerbils. The results strengthen the hypothesis that the pineal has a role in pubertal development."

[\(http://www.fluoridealert.org/studies/luke-1997/\)](http://www.fluoridealert.org/studies/luke-1997/)

Luke (2001): Fluoride Deposition in the Aged Human Pineal Gland

This study has added new knowledge on the fate and distribution of fluoride in the body. It has shown for the first time that fluoride readily accumulates in the human pineal gland although there was considerable inter-individual variation.

[\(http://www.fluoridealert.org/studies/luke-2001/\)](http://www.fluoridealert.org/studies/luke-2001/)

RELATED MISCELLANEOUS CONTENT:

Melatonin & Breast Cancer

I have just received a fascinating piece of snail mail from June Allen, who with her husband Dr. Phillip Allen, runs a group called Enviro-Health Concerns. She has pulled out some quotes which point to a possible connection between melatonin levels and breast cancer, and ties this back to the

[\(http://www.fluoridealert.org/content/fin-16/\)](http://www.fluoridealert.org/content/fin-16/)

Fluoride & the Pineal Gland: Study Published in Caries Research

The wheels of science grind very slowly. Finally, the first half of the work that was the subject of Jennifer Luke's Ph.D. thesis: presentation in Bellingham, Washington (ISFR conference) in 1998 and a videotaped interview I had with her, has been published in Caries Research. In my view this work is

[\(http://www.fluoridealert.org/content/fin-269/\)](http://www.fluoridealert.org/content/fin-269/)

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More Studies Link Fluoride to Brain Damage



W-1

Legislators Are Misled About Gravity and Extent of Fluoride Brain Risk

NEW YORK, Sept. 13, 2012 /PRNewswire-USNewswire/ -- Newly discovered and translated published studies reveal fluoride is linked to lower IQ, even at levels added to US water supplies, reports the Fluoride Action Network (FAN). Further, fluoridation promoters misrepresented newly published Harvard fluoride/IQ research.

Thirty-four studies now link fluoride to reduced IQ in humans. Dozens of other studies correlate fluoride to impaired learning and memory, altered neurobehavioral function, fetal brain damage, and altered thyroid hormone levels. Full studies available at FAN's website <http://www.fluorideaction.org/articles/qi-facts/>

"Legislators who mandate fluoridation without carefully considering this research are doing a profound disservice to the health and welfare of their constituents," says attorney Michael Connell of FAN.

Harvard researchers recently concluded, after reviewing 27 fluoride/IQ studies, that fluoride's effect on children's developing brains should be a "high research priority" especially in the US which has never investigated brain/fluoride effects.

Fluoridation advocates, however, misinterpreted this research and misled legislators in Phoenix, Portland, Wichita and elsewhere by stating the Harvard research isn't relevant to Americans. Advocates claimed the Harvard study found only a 1/2 point difference in IQ, and that the fluoride levels were much higher than Americans experience.

That's wrong. The Harvard team found that fluoride exposure was associated with a statistically significant reduction of 7 IQ points, not the 1/2 point claimed by advocate, Dr. Myron Alukian. The Pow Children's Dental Campaign and other fluoridation advocates, including Alukian and Portland Mayor Sam Adams, have stated the Harvard study focused on fluoride levels of 11.5 mg/l. Only one of the studies, however, was at 11.5 mg/l.

The majority of water studies examined by the Harvard team investigated fluoride levels which the US EPA says is safe – less than 4 mg/l.

- One study, sponsored by UNICEF, found reduced IQ at just 0.88 mg/l – a level within the "optimal" fluoride range added to the drinking water of over 200 million Americans.
- Seven found reduced IQs among children drinking water with fluoride levels between 2.1 and 4 mg/l – levels that 1.4 million Americans drink everyday.
- Four found effects at levels between 1.8 and 2.0 mg/l – levels that over 200,000 Americans drink everyday.

EPA's conventional approach to risk assessment limits chemical exposure to levels ten times less than those known to cause adverse effects. With fluoride and IQ, the levels of fluoride in water and urine are – at most – just two or three times more than the amount experienced by tens of millions of American children.

Children with iodine deficiencies are particularly harmed by fluoride. And iodine deficiency has **increased significantly**, now affecting up to 12% of the US population.

"The question legislators should be asking themselves is 'Do I wait until public health officials catch up with the scientific literature that now shows fluoride can cause serious neurological harm to children, or do I take my leadership role seriously and stop fluoridation immediately,'" says FAN Executive Director, Paul Connell, Ph.D. "I think the latter is the only ethical answer."

SOURCE Fluoride Action Network

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Fluoride free ... I just want the choice/what is fluoride

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This site is dedicated to all who know that fluoridation of water causes adverse affects on health and especially to those who dedicate their lives to this and/or put their careers on the line by speaking out to alert others of the facts.

My family and I are truely indebted to you, I am now enjoying the best of health having recovered from Hashimoto's Disease. I have taken **NO MEDICATION** whatsoever.

I hope I can inspire you to try this because it is **WORKING FOR ME.**



There's more than just water in it...

FATIGUE, OVERWEIGHT AND RELATED PROBLEMS. IT ALSO AFFECTS BONES AND JOINTS AND CAUSES PROBLEMS. IT ALSO AFFECTS BONES AND JOINTS AND CAN CAUSE DENTAL FLUOROSIS OR MORE PROBLEMS. IT ALSO AFFECTS BONES AND JOINTS AND CAN CAUSE DENTAL FLUOROSIS OR MORE PROBLEMS.
FLUORIDE FREE - I JUST WANT THE CHOICE
What Is Fluoride?

Fluorine is the most reactive of all elements and does not occur free in nature. Fluorine combines with organic and inorganic compounds which are referred as fluorides. Calcium fluoride (CaF₂) is an insoluble ionic compound of calcium and fluorine. It occurs naturally as the mineral fluorite or fluorspar, in seawater, rivers, and mineral springs, in stems of certain grasses, and in animal bones and teeth.

But they **do not** add calcium fluoride to drinking water.

According to Australian Drinking Water Guidelines 2004 endorsed by NATIONAL HEALTH AND MEDICAL RESEARCH COUNCIL:

Hydrofluorosilicic acid is used to artificially fluoridate water. Hydrofluorosilicic acid, H₂SiF₆ (also known as fluosilicic acid, hexafluorosilicic acid), is a colourless to pale yellow liquid, poisonous and corrosive, with a pungent odour and irritating fumes. It can etch glass.

Hydrofluorosilicic acid is a byproduct of the preparation of chemical fertilisers from phosphate rock. The rock is ground up and treated with sulphuric acid, forming a gas byproduct, which then reacts with water to produce a weak acid. This hydrofluorosilicic acid solution is subsequently concentrated to strengths of up to 30%. Manufacture of hydrofluorosilicic acid is limited, but because the acid is a byproduct of the agricultural industry, it is generally readily available in Australia.

Chemical contaminants that may occur in hydrofluorosilicic acid solutions include inorganic and organic substances, and the following chemicals:

- Arsenic
- Cadmium
- Lead

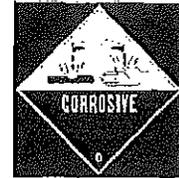
The concentrations of contaminants depend on the purity of the raw materials used in fertiliser production.

The EPA in USA have set the MAXIMUM CONTAMINANT LEVEL GOAL (MCLG) FOR ARSENIC at ZERO. They state "Arsenic has been linked to cancer of the bladder, lungs, skin, kidney, nasal passages, liver, and prostate."

Fluorosilicic Acid - Safety

Below is some information I found on the internet at a website belonging to an Australian company that supplies Fluorosilicic Acid:

| IDENTIFICATION | |
|-------------------------------|--|
| Statement of Hazardous Nature | Classified as hazardous according to criteria of WorkSafe Australia. |
| Product Name: | Fluorosilicic Acid (22% Solution) |
| Other Names: | Fluosilicic acid, hydrofluorosilicic acid, silicofluoric acid |
| Dangerous Goods Class: | 8 |



Fluorosilicic Acid is a Corrosive Toxic Chemical Cocktail

FLUORIDE FREE - WHAT IS FLUORIDE

| | |
|--------------------------|--|
| Poisons Schedule Number: | 7 |
| Use: | Fluoridating potable water. |
| Corrosiveness: | Corrosive to most metals. Incompatible with glass and stoneware. |
| pH of 10% solution: | Less than 1. |

| HEALTH HAZARD INFORMATION | |
|---------------------------|---|
| Acute: | Fluorosilicic acid is an acute irritant to the skin, eyes and mucous membranes and lungs. The acid and its vapour are moderately toxic. Fluoride poisoning effects may be delayed up to 24 hours, depending upon the fluoride ion concentration. |
| Swallowed: | Severe irritant. Ingestion may cause burns of the gastrointestinal tract leading to vomiting, acidosis, bloody diarrhoea, wheezing, laryngitis, shortness of breath, headache and shock. Circulatory system may be affected with symptoms of shock, rapid, weak or no pulse, severe hypotension and pulmonary changes with dyspnea, and oedema. In some cases, necrosis and haemorrhage of the gastrointestinal tract, liver damage and death may occur. Scarring of the gastrointestinal tract may occur in non-fatal cases. LD50 (Oral guinea pig) = 200 mg/kg. For comparison, the estimated LD (man) = 2.5 to 5.9 g of F ⁻ . |
| Eye: | Severe irritant. Contact may result in lacrimation, irritation, pain, redness and conjunctivitis. Prolonged contact - corneal burns and possible permanent damage. |
| Skin: | Severe irritant. Prolonged contact may result in irritation, itching and possible skin rash. |
| Inhaled: | Severe irritant to the respiratory tract. Over exposure at high levels may result in mucous membrane irritation of the nose and throat with coughing, shortness of breath and pulmonary oedema. |
| Chronic: | Chronic exposure to fluoride present in fluorosilicic acid may lead to sclerosis of the bones, calcification of ligaments, loss of weight, anorexia, anaemia and teeth disorders. At low levels, chronic exposure can lead to nose bleeds and sinus problems. |

| PRECAUTIONS FOR USE | |
|---------------------|---|
| Respirator Type: | Where vapour, or mist is a problem, use P2 type canister respirator. Excessive vapour or mist requires the use of supplied-air breathing apparatus. |
| Glove Type: | Wear PVC gloves to prevent contact. |
| Eye Protection: | Wear mist-proof goggles and full face shield to prevent eye contact. |
| Clothing: | Wear safety helmet, PVC overalls, or PVC trousers and jacket, and rubber boots to prevent contact. |

FLUORIDE IS TOXIC - IT IS CLASSIFIED AS A POISONS SCHEDULE NUMBER 7 (OUT OF 8)
FLUORIDE IS A BYPRODUCT FROM THE FERTILISER MANUFACTURING INDUSTRY
FLUORIDE IS LACED WITH CARCINOGENIC TOXIC CHEMICALS

FLUORIDE FREE - BY CHOICE

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